

Final decision paper for the Benchmark Agreement and Interconnection Rules

Prepared by the Electricity Commission

21 May 2007

Executive summary

Introduction

Section II of Part F of the Electricity Governance Rules (**Rules**) contains provisions relating to the relationship between Transpower New Zealand Limited (**Transpower**) and its customers that requires them to enter into transmission agreements for connection to and use of the grid.

Section II requires the Electricity Commission (Commission) to make three overall decisions, as follows.

- (a) **Structure:** The Commission must determine an appropriate transmission agreement structure (rule 2.1). This structure must be the structure of the benchmark agreement.
- (b) **Counterparties:** The Commission must determine and make recommendations to the Minister of Energy (**Minister**) of the categories of participants to be designated transmission customers (or **counterparties**) (rule 2.2). Counterparties must enter into transmission agreements with Transpower.
- (c) **Benchmark agreement:** The Commission must recommend to the Minister a benchmark agreement for inclusion in a schedule to section II (rule 4). The benchmark agreement is intended to be a default transmission agreement between Transpower and counterparties where a transmission agreement has not been established. Any negotiated transmission agreements must be consistent with the benchmark agreement.

Consultation

The Commission has undertaken extensive consultation on the three requirements above¹ and has received drafting comments. The Commission has now considered these drafting comments and, where necessary, has amended or clarified the final proposals set out in this paper.

¹ Details on all consultation the Commission has undertaken in reaching the proposals set out in this paper can be found at: <http://www.electricitycommission.govt.nz/opdev/transmis/Benchmark>

Purpose of this paper

The Commission has previously undertaken a considerable amount of analysis of its proposals against section 172F of the Electricity Act 1992 (**Act**). The analysis of the Commission's original proposals is contained in:

- (a) the Benchmark Agreement Consultation Paper, dated 19 May 2006; and
- (b) the Interconnection Rules Consultation Paper, dated 9 June 2006.

Some of the Commission's proposals have been changed or clarified as a result of the consultation process, the Commission's subsequent consideration of the proposals and the feedback received. This paper describes the changes to the Commission's proposals, except for minor drafting changes.

In many cases, the clarifications and changes are relatively minor in nature, and the Commission considers that the previous analysis under section 172F of the proposal still stands. In other cases, the changes are more significant, requiring a new or revised assessment against section 172F of the Act. Also, in some cases, even where the proposals have not changed, it is necessary to update the Commission's initial section 172F analysis.

Accordingly, the purpose of this paper is to:

- (a) outline any changes to the proposals set out in the:
 - i. Benchmark Agreement Consultation Paper and draft Benchmark Agreement;
 - ii. Interconnection Rules Consultation Paper and draft Interconnection Rules; and
 - iii. Summary of submissions and provisional response to submissions on the draft Benchmark Agreement and draft Interconnection Rules;
- (b) augment, revise or replace the analysis against section 172F of the Act presented in the above papers to reflect changes or clarifications to the proposals and the Commission's additional considerations as a result of the consultation process; and therefore
- (c) confirm the final proposals that the Commission recommends to the Minister.

Process going forward

The following table sets out the intended timetable for the process for the further development and implementation of the benchmark agreement and interconnection rules.

Table 1: Process going forward

| Step | Timeline |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Benchmark agreement and interconnection rules recommended to Minister | late May 2007 |
| Benchmark agreement and interconnection rules added to Rules | late June 2007 |
| Transpower provides draft connection code and outage protocol to Commission (including discussion with industry) Transpower to provide draft service levels for interconnection services to the Commission (see proposals in section 8 of this paper) | late September 2007 |
| Commission issues draft connection code and outage protocol for consultation Commission issues draft interconnection service levels for consultation | early October 2007 |
| Consultation closes on draft connection code and outage protocol Consultation closes on interconnection service levels | early November 2007 |
| Connection code and outage protocol finalised and recommended to Minister Interconnection service levels recommended to Minister | early December 2007 |
| Connection code and outage protocol added to Rules Interconnection service levels added to Rules | by 1 February 2008 |
| Benchmark agreement, interconnection service levels and Transmission Pricing Methodology come into force (following negotiation period for transmission agreements) | 1 April 2008 |

Summary of proposals

The table below sets out the Commission's final proposals relative to the provisional responses in the Summary and Response paper, which either confirmed the original proposal or proposed changes.

Where a proposal has been changed from the Summary and Response paper, clarification of the proposal is set out in the table.

Where a proposal is unchanged from the Summary and Response paper a brief description of the proposal is provided, but interested parties may wish to refer to the proposal and response sections of the Summary and Response papers (references are given). The Commission notes that, even if a proposal is unchanged, some changes to the drafting in the benchmark agreement or proposed rules may have been made.

Table 2: Summary of final proposals relative to those in the Summary and Response paper

| Component | Element | Proposal as confirmed/described in the Summary and Response paper | Proposal relative to that in the Summary and Response paper |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Structure for transmission agreements | Structure for transmission agreements | <p>This Commission proposed a single agreement covering connection and interconnection information services.</p> <p>Also, Transpower and counterparties will be able to make material variations from the Benchmark Agreement under a transmission agreement (with certain limitations).</p> | These proposals are unchanged. |
| Categories of participants to be designated transmission customers (counterparties) | Categories of participants to be counterparties required to enter into transmission agreements with Transpower | The Commission proposed that the appropriate category of participants to be counterparties is generators, distributors and directly connected customers. | This proposal is unchanged. |
| Approach to interconnection services | Treatment of interconnection asset services | The Commission proposed that interconnection services be directly regulated under the Rules. | This proposal is unchanged |
| | Definition of connection and interconnection assets | The Commission proposed to define connection and interconnection assets as set out in the TPM proposed by Transpower on 22 June 2006. | This proposal is unchanged. |
| | Treatment of the HVDC link | The Commission proposed that the High Voltage Direct Current (HVDC) link be expressly included in the definition of interconnection assets. | This proposal is unchanged |
| Interface with part C of the Rules | Consistency with asset owner performance obligations (includes | The Commission proposed that the voltage operating measure for interconnection circuits be consistent | This proposal is unchanged except for the additional information that the Commission intends to review |

| Component | Element | Proposal as confirmed/described in the Summary and Response paper | Proposal relative to that in the Summary and Response paper |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | proposal to preserve the effect of part I transitional arrangements) | with the voltage operating range in the asset owner performance obligations (AOPOs) or under any dispensation or equivalence arrangement granted under part C, and that part I transitional local quality arrangements be directly referred to and continued. | local quality dispensations granted under part I in the Rules at a future date. |
| Interconnection - Economic investments | Requirement to identify and report on economic investments in interconnection assets | The Commission proposed that Transpower publish a report on economic investments for interconnection assets within six months of the publication of the Statement of Opportunities (SOO). Within six months, Transpower would be required to propose a timetable to submit a Grid Upgrade Plan (GUP) to the Commission in respect of those investments. | This proposal is unchanged. |
| Service definitions | Approach to defining connection asset services and interconnection services (e.g. “asset availability” approach, “meet demand” approach) | The Commission proposed an asset availability approach. | This proposal is unchanged. |
| Service measures | Service measures for connection assets and interconnection information services. | The Commission proposed a range of capacity, availability and reliability, and customer service measures under the benchmark agreement for connection assets and interconnection information services. There were a number of additions to these measures that arose from submissions. See Section 7.2 of the Summary and Response | The capacity measures section will be changed to reflect Transpower’s proposal that service measures be formed on a node-to-node basis and reflect the output from its Asset Capability Information (ACI) system. In addition to that information currently included in ACI information provided by Transpower, the Commission proposes to have service measures relating to impedance, feeder capacity, 24 hour post |

| Component | Element | Proposal as confirmed/described in the Summary and Response paper | Proposal relative to that in the Summary and Response paper |
|-----------|---------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | <p>paper for more information on this proposal.</p> | <p>contingency ratings, tap changes on transformer branches (these additions were service measures included in the Commission's original proposals).</p> <p>Service measures relating to availability, reliability, and reporting and response are unchanged aside from consequential changes arising from those above and:</p> <ul style="list-style-type: none"> ▪ the potential addition of a peak demand information reporting requirement - the Commission is currently undertaking consultation on the addition of only the further reporting requirement; and ▪ the requirement that Transpower report the number of momentary interruptions annually. <p>There are also different measures and reporting requirements for outages and interruptions with a duration larger than 1 minute and those with a duration shorter than 1 minute.</p> <p>The Commission has removed the requirement that Transpower forecast expected maximum fault level (this is now included in the Connection Code), but a requirement to provide design maximum fault levels is included.</p> |

| Component | Element | Proposal as confirmed/described in the Summary and Response paper | Proposal relative to that in the Summary and Response paper |
|-----------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Service measures for interconnection asset services. | <p>The Commission proposed a range of capacity service measures in the interconnection rules. There were a number of additions to these measures that arose from submissions.</p> <p>The Commission proposed to define interruption in the same manner as the Commerce Commission.</p> <p>See Section 7.2 of the Summary and Response paper for more information.</p> | <p>The Commission proposes to provide for the same node to node approach as for connection assets, and to provide for the same capacity service measures as for connection assets (as described above) in the interconnection rules. In addition to these the Commission proposes the following service measures.</p> <ul style="list-style-type: none"> ▪ Transpower to provide the capacity of five different configurations of the HVDC Link in terms of DC sent and AC received in MW; ▪ Several service measures for shunt assets – capacity rating (in MVar), voltage rating, voltage range, whether the asset is dynamic or static and if it has an effect on HVDC capacities. <p>The Commission has differentiated between outages and interruptions of less than 1 minutes and those more than 1 minute as discussed above.</p> |
| | Should availability and reliability service measures be enforceable? | The Commission proposed that availability and reliability measures be provided for information, but that the Commission intends to review the enforceability of these measures at a later date, after the benchmark agreement is implemented, including investigating a no-fault compensation regime. | The proposal is unchanged except for the indication that the Commission intends to review the enforceability of these measures (including the possible use of an unconditional service guarantee type approach) within 2 years of the April 2008 implementation of the benchmark agreement. |

| Component | Element | Proposal as confirmed/described in the Summary and Response paper | Proposal relative to that in the Summary and Response paper |
|-----------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Should market-related service measures be developed by the Commission? | The Commission did not propose to include market related service measures. | This proposal is unchanged. |
| Service levels | Service levels for connection assets and interconnection information services | The Commission proposes that Transpower and the counterparty should determine service levels based on the last five years of data at a point of connection. If Transpower and counterparties are unable to agree on interim service levels, either party would be able to refer the matter to the Rulings Panel | These proposals are unchanged. |
| | Service levels for interconnection asset services | The Commission proposed that Transpower should develop service levels based on the performance over the last five years of similar assets. | This proposal is unchanged. |
| | Transition issues | The Commission proposes to amend the proposal so that the process of determining the service levels and other customer-specific terms begins immediately following the gazetting of the benchmark agreement. | This proposal is unchanged. |
| Outage protocol | Outage protocol development | <p>The Commission proposed a new section VII of part F to provide for the making of an outage protocol addressing outages of both connection and interconnection assets.</p> <p>A number of changes to the original proposal were set out in this paper. These included for example:</p> | <p>Fundamentally, the Commission's proposal is unchanged.</p> <p>In terms of the details of the Outage Protocol rules, the Commission has further developed its proposal to provide further clarity in the Outage Protocol Rules. These changes include, for example:</p> |

| Component | Element | Proposal as confirmed/described in the Summary and Response paper | Proposal relative to that in the Summary and Response paper |
|----------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | <ul style="list-style-type: none"> ▪ changes to the process for establishing the outage protocol; ▪ the statement of a net benefits principle; and ▪ the specification of analytical requirements under the principle for interconnection outages and where Transpower is unable to agree an outage with a counterparty. | <ul style="list-style-type: none"> ▪ changes to the purpose statement; and ▪ clarification of fuel costs. <p>Elements of the net benefits principle have been further clarified in the draft outage protocol rules.</p> |
| Compensation and liability | Compensation and liability regimes | <p>The Commission proposed that liability under the benchmark agreement generally be limited to direct costs.</p> <p>Liability under the outage protocol (including those relating to connection capacity measures) and interconnection rules are consistent with normal rule breach processes.</p> <p>The Commission also proposed that Transpower indemnify counterparties for any potential losses arising from outages caused by Transpower assets under the Consumer Guarantees Act 1993.</p> | This proposal is unchanged. |
| Grid investment | Connection assets - Investment and consistency with the GRS | The Commission proposed that Transpower be required to inform counterparties where connection assets do not meet the Grid Reliability Standards (GRS) and to develop proposals to ensure connection assets do meet the GRS. Counterparties | <p>This proposal is unchanged, except that:</p> <ul style="list-style-type: none"> ▪ rather than specifying an alternative value of lost load, the customer will propose it. If the Commission does not consider that the value is |

| Component | Element | Proposal as confirmed/described in the Summary and Response paper | Proposal relative to that in the Summary and Response paper |
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| | | <p>would decide whether to invest and any investment would be required to be consistent with the GRS. Transpower will not be required to allow counterparties to invest on its land.</p> <p>The Commission proposes to amend its proposal in relation to connection assets so that counterparties would decide whether to invest and any investment would be required to be consistent with the GRS. Further, counterparties could carry out investment themselves, subject to obtaining Transpower's consent to enter its land.</p> <p>Transpower will not be able to submit an investment where they cannot agree on an investment with a counterparty. However, the Commission will still be able to request that a Grid Upgrade Plan (GUP) be submitted.</p> <p>Counterparties will be entitled to specify their value of lost load, subject to a reasonableness requirement.</p> | <p>reasonable, the standard volume under the rules must be used; and</p> <ul style="list-style-type: none"> ▪ for shared connection assets, Transpower will be able to ask the Commission to request it to submit a GUP in the event that the connected parties cannot agree among themselves or that the counterparties do not agree with Transpower. |
| Grid investment | Interconnection assets - Investment and consistency with the GRS | For interconnection assets, Transpower would be required to identify where interconnection assets will not meet the GRS and require Transpower to develop investment proposals to ensure interconnection assets meet the GRS, as initially | This proposal is unchanged. |

| Component | Element | Proposal as confirmed/described in the Summary and Response paper | Proposal relative to that in the Summary and Response paper |
|------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| | | <p>proposed.</p> <p>This revised proposal is based on that set out in the invitation for cross-submissions, with minor changes based on submissions. It is similar to one of the alternative options initially considered.</p> | |
| Exceptions to the GRS for investment contracts | Amend the Rules to provide for investment contracts with a lesser reliability level than the GRS | The Commission proposed to amend rule 8 of section III to allow investment contracts for connection assets to provide for a lower level of reliability than the GRS, provided Transpower and the counterparty have complied with rule 5.2. | This proposal is unchanged. |
| Contractual terms | Term of contract | The Commission proposed an “evergreen” contract. | This proposal is unchanged. |
| | Notice of termination | The Commission proposed that counterparties be required to give six months notice to terminate the transmission agreement. Transpower’s rights to terminate a transmission agreement would be limited to non-payment, technical default or insolvency. | This proposal is unchanged. |
| | Credit support | The Commission proposed that transmission counterparties be extended credit support if the customer has a long term credit rating of at least a BB on Standard & Poors scale or an equivalent rating as assigned by Transpower in accordance with the benchmark agreement. | This proposal is unchanged – Ernst & Young have provided the Commission with further advice on this matter. This advice is attached as Appendix A. |

| Component | Element | Proposal as confirmed/described in the Summary and Response paper | Proposal relative to that in the Summary and Response paper |
|-----------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Disputed invoices | The Commission proposed that parties “pay now and dispute later” for disputed invoices. | This proposal is unchanged. |
| | Dispute resolution | The Commission proposed standard commercial dispute resolution processes would apply in respect of disputes about the performance of the benchmark agreement. Therefore, the Rulings Panel will have no jurisdiction as to the interpretation or enforcement of the benchmark agreement. | This proposal is unchanged. |
| | Connection code | The Commission proposed that Transpower be required to draft a connection code and that Transpower and counterparties be required to comply with this code following its approval. | This proposal is unchanged other than the inclusion of a requirement that Transpower and counterparties forecast a expected maximum fault level (this requirement has been removed from the capacity service measures). |
| | Access and occupation | <p>The Commission proposed that an access and occupation schedule will apply where a customer has facilities on Transpower’s land and there is no written agreement covering such occupation.</p> <p>In addition to this the Commission proposed that the benchmark agreement liability cap would be extended to the Access and Occupation Schedule and that existing rights under the Electricity Act would continue to apply.</p> | This proposal is unchanged. |
| | Local quality | The Commission considered that local quality issues are adequately addressed by the capacity service | This proposal is unchanged except for the additional information that the Commission intends to review |

| Component | Element | Proposal as confirmed/described in the Summary and Response paper | Proposal relative to that in the Summary and Response paper |
|-----------|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| | | measures and that part I transitional local quality arrangements be directly referred to and continue to apply. | the local quality dispensations granted under part I in the Rules at a future date. |
| | New connections and upgrades to existing connections | The Commission intends to undertake further work on this issue. | The proposal to review this workstream at a later date is unchanged. |

Glossary of abbreviations and terms

| | |
|-------------|--------------------------------------------------------------------------------------|
| ACI | Asset Capability Information |
| Act | Electricity Act 1992 |
| AOPOs | Asset Owner Performance Obligations |
| CGA | Consumer Guarantees Act 1993 |
| Code | Connection Code |
| Commission | Electricity Commission |
| GEIR | Grid Economic Investment Report |
| GIT | Grid Investment Test |
| GPS | Government Policy Statement on Electricity Governance (as published in October 2006) |
| GRR | Grid Reliability Report |
| GRS | Grid Reliability Standards |
| GUP | Grid Upgrade Plan |
| GXP | Grid Exit Point |
| HVDC | High Voltage Direct Current |
| HVDC Link | This is defined in part A of the Electricity Governance Rules |
| MRP | Mighty River Power Limited |
| MW | Megawatts |
| Part F | Part F of the Electricity Governance Rules 2003 |
| PwC | PriceWaterhouseCoopers |
| POCP | Planned Outage Coordination Process |
| Regulations | Electricity Governance Regulations 2003 |
| Rules | Electricity Governance Rules 2003 |
| SCADA | Supervisory Control and Demand Acquisition |

| | |
|------------|----------------------------------|
| SOO | Statement of Opportunities |
| TPM | Transmission Pricing Methodology |
| Transpower | Transpower New Zealand Limited |
| TSD | Transmission Service Definition |
| USG | Unconditional Service Guarantee |
| VOLL | Value of Lost Load |

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1. Introduction

1.1 Background

1.1.1 Section II of part F of the Electricity Governance Rules 2003 (**Rules**) contains provisions relating to the relationship between Transpower New Zealand Limited (**Transpower**) and its customers that requires them to enter into transmission agreements for connection to and use of the grid.

1.1.2 Section II requires the Electricity Commission (**Commission**) to make three overall decisions, as follows.

- (a) **Structure:** The Commission must determine an appropriate transmission agreement structure (rule 2.1 of section II of part F²). This structure must be the structure of the Benchmark Agreement.
- (b) **Counterparties:** The Commission must determine, and recommend to the Minister of Energy (**Minister**) for inclusion in a schedule to section II, a list of the categories of participants to be designated transmission customers (or counterparties) (rule 2.2). Counterparties must enter into transmission agreements with Transpower.
- (c) **Benchmark agreement:** The Commission must recommend to the Minister a Benchmark Agreement for inclusion in a schedule to section II (rule 4). The Benchmark Agreement is intended to be a default transmission agreement between Transpower and counterparties, where a transmission agreement has not been established. Any negotiated transmission agreements must be consistent with the Benchmark Agreement.

1.2 Previous consultation

1.2.1 The Commission has undertaken an extensive consultation process on its proposals relating to transmission agreements. This process consisted of the following steps:

- (a) contract structure and counterparties consultation paper – the Commission published a preliminary consultation paper about the Transmission Contract Structure and Counterparties in September 2004. Following its consideration of submissions, the Commission published a preliminary decision in December 2004;

² Hereinafter, all references to the Rules are to section II of part F of the Rules, unless stated otherwise.

- (b) transmission service definitions – the Commission published and consulted on high-level policy options and recommendations relating to transmission service definitions (**TSDs**) on 15 April 2005;
- (c) draft Benchmark Agreement and draft Interconnection Rules Consultation Papers – the “Benchmark Agreement Consultation Paper and draft Benchmark Agreement” (**Benchmark Agreement Consultation Paper**) and “Interconnection Rules Consultation Paper and draft Interconnection Rules” (**Interconnection Rules Consultation Paper**) were published on 19 May 2006 and 9 June 2006 respectively;
- (d) invitation for cross-submissions – submissions on submissions and a brief invitation for cross-submissions paper were published on the Commission’s website and an invitation for cross-submissions issued on 31 August 2006;
- (e) summary of submissions and provisional response – the “Summary of submissions and provisional response paper” (**Summary and Response Paper**) was published on 14 December 2006;
- (f) conference – on 13 February 2007 the Commission held a conference for submitters to present orally and briefly the key points of their submissions and cross-submissions, and for the Commission to ask questions based on those submissions and cross-submissions;
- (g) regional demand signal – the “Peak demand information consultation paper” was published on 16 March 2007, submissions being due by 18 April 2007. The paper sought submissions on a new regional demand information measure for the Benchmark Agreement, which would assist parties in managing their demand for the purposes of the (Transmission Pricing Methodology (**TPM**); and
- (h) drafting comment – on 16 March 2007 the Commission sought comments on the drafting of the final form of the recommendations to be made to the Minister, such comments being due by 18 April 2007.

1.2.2 Following the consultation process, the Commission has considered in detail the issues raised in submissions and cross-submissions, and the drafting comments. Its final proposals are outlined in this paper.

1.3 Purpose of this paper

1.3.1 The Commission has previously undertaken a considerable amount of analysis of its proposals against section 172F of the Electricity Act 1992 (**Act**). The analysis of the Commission’s original proposals is contained in:

- (a) the Benchmark Agreement Consultation Paper, dated 19 May 2006; and
 - (b) the Interconnection Rules Consultation Paper, dated 9 June 2006.
- 1.3.2 Some of the Commission's proposals have been changed or clarified as a result of the consultation process, the Commission's subsequent consideration of the proposals and the feedback received. This paper describes the changes to the Commission's proposals, except for minor drafting changes.
- 1.3.3 In many cases, the clarifications and changes are relatively minor in nature, and the Commission considers that the previous analysis under section 172F of the proposal still stands. In other cases, the changes are more significant, requiring a new or revised assessment against section 172F of the Act. Also, in some cases, even where the proposals have not changed, it is necessary to update the Commission's initial section 172F analysis.
- 1.3.4 The Commission considers that it is desirable to avoid unnecessary duplication of the section 172F analysis for a number of reasons, including the aim of reducing the length of this paper. It has, therefore, decided not to repeat its section 172F analysis where no changes have been made.
- 1.3.5 Accordingly, the purpose of this paper is to:
 - (a) outline any changes to the proposals set out in the:
 - (i) Benchmark Agreement Consultation Paper and draft Benchmark Agreement;
 - (ii) Interconnection Rules Consultation Paper and draft Interconnection Rules; and
 - (iii) Summary of submissions and provisional response to submissions on the draft Benchmark Agreement and draft Interconnection Rules;
 - (b) augment the analysis against section 172F of the Act presented in the above papers to reflect any changes or clarifications to the proposals and the Commission's additional considerations as a result of the consultation process; and therefore
 - (c) confirm the final proposals that the Commission recommends to the Minister.
- 1.3.6 This paper also describes a number of additions and clarifications to its proposal that have arisen from its consideration of the drafting comments.

1.4 Additional proposals

- 1.4.1 This paper builds on the analysis set out in the Commission's Benchmark Agreement Consultation Paper and Interconnection Rules Consultation Paper.
- 1.4.2 Where analysis is unchanged from the original consultation papers (i.e. the proposal and alternatives are unchanged) this paper includes a brief commentary of the issues and a statement of the final proposal.
- 1.4.3 Where a proposal, an alternative or the reasoning is changed, this paper provides the necessary commentary to reflect the change.

1.5 Structure of this paper

- 1.5.1 The structure of the analysis in each section is described in Section 2 below.
- 1.5.2 The sections following Section 2 set out the Commission's final proposals, apart from Section 15, which concludes this paper.
- 1.5.3 Attached to this paper are:

Appendix A: Report from Ernst&Young on "Benchmark Connection Agreement Credit Support Provisions – Further Supplementary Report" (22 March 2007);
and

Appendix B: Letter from Meridian Energy Limited to the Commission on "Information Requested at the Benchmark Conference" (relating to HVDC Link contract) (16 February 2007).

1.6 Process going forward

- 1.6.1 This paper sets out the final proposals that the Commission is recommending to the Minister.
- 1.6.2 The following table sets out the intended timetable for the process for the further development and implementation of the benchmark agreement and interconnection rules.

Table 3: Process going forward

| Step | Timeline |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Benchmark agreement and interconnection rules recommended to Minister | late May 2007 |
| Benchmark agreement and interconnection rules added to Rules | late June 2007 |
| Transpower provides draft connection code and outage protocol to Commission (including discussion with industry) Transpower to provide draft service levels for interconnection services to the Commission (see proposals in section 8 of this paper) | late September 2007 |
| Commission issues draft connection code and outage protocol for consultation Commission issues draft interconnection service levels for consultation | early October 2007 |
| Consultation closes on draft connection code and outage protocol Consultation closes on interconnection service levels | early November 2007 |
| Connection code and outage protocol finalised and recommended to Minister Interconnection service levels recommended to Minister | early December 2007 |
| Connection code and outage protocol added to Rules Interconnection service levels added to Rules | by 1 February 2008 |
| Benchmark agreement, interconnection service levels and Transmission Pricing Methodology come into force (following negotiation period for transmission agreements) | 1 April 2008 |

2. Assessment framework

2.1 Introduction

2.1.1 The Commission's assessment framework for assessing the proposals and reasonably practicable alternatives is unchanged from that set out in the Benchmark Agreement Consultation Paper and Interconnection Rules Consultation Paper.

2.2 The Commission's objectives

2.2.1 The relevant regulatory framework is based on the Act, the Government Policy Statement on Electricity Governance 2006 (**GPS**), and the Rules. In addition to setting out the process that the Commission must follow in its decision-making, the regulatory framework sets out the evaluation criteria that the Commission must take into account in developing its proposals.

2.2.2 During the development of the Benchmark Agreement and Interconnection Rules the GPS was revised. The Commission has considered the extent to which the revised GPS affects the proposals and is satisfied the final proposals for recommendation to the Minister are aligned with the revised GPS.

2.3 Process for amendments to the Rules under the Electricity Act 1992

2.3.1 If the Minister makes or the Commission recommends a rule, the Minister and the Commission must comply with the conditions and processes that apply under section 172E and section 172F of the Act to the making of Electricity Governance Regulations 2003 (**Regulations**).

2.3.2 This paper, in part, satisfies the requirements of sections 172F and 172E, by setting out an assessment of the Commission's proposals in each section, as relevant, for the purposes of section 172E.

2.4 Section II of part F

2.4.1 In addition to those objectives set out above, the Commission is required to consider numerous other objectives/principles under section II of part F. These objectives and principles are set out in sections 2.2.2 to 2.2.7 of the Benchmark Agreement Consultation Paper.

2.5 Application of assessment framework

- 2.5.1 The Commission continues to apply this framework in making its final proposals. However, this paper alone is not intended to fulfil the requirements of sections 172E and 172F of the Act. Rather, this paper is intended to add to the Benchmark Agreement Consultation Paper and Interconnection Rules Consultation Paper and, together, all these papers analyse all elements of the final proposals according the 172E and 172F framework.

3. Structure of the Benchmark Agreement

3.1.1 This section sets out the Commission's final proposed structure for transmission agreements for the purposes of rule 2.1.

3.1.2 This section reflects the Commission's proposal that interconnection asset services will be addressed in the Rules, and not the Benchmark Agreement. The Benchmark Agreement will contain service definitions, measures and levels for connection services and interconnection information services, and provide for charging for connection services in accordance with the TPM.

3.2 The Commission's proposal

3.2.1 The Commission's proposed structure for transmission agreements is a single transmission agreement covering both connection services and interconnection information services. This proposal is unchanged from that presented in section 4 of the Benchmark Agreement Consultation Paper.

3.2.2 Complementary to this proposal is proposed rule 5.4 of section II of part F. This proposed rule would allow Transpower and counterparties to make material variations from the Benchmark Agreement under a transmission agreement (that do not increase or decrease the level of service). This would be conditional upon them having consulted other affected counterparties and end use customers, and there being "no unresolved issues". The new rule would require Transpower and the counterparty to satisfy the Commission of this. This proposal is unchanged from that presented in section 12.1 of the Benchmark Agreement Consultation Paper.

3.3 Submissions

3.3.1 The Commission received 15 submissions. A number of submitters broadly supported the proposal that there be a single agreement that covers all designated transmission customers.

3.3.2 Submitters opposed to the proposal that there be a single agreement raised the following key issues:

- (a) the proposed structure of transmission agreements is too inflexible to accommodate the different needs of contracting parties; and

- (b) the proposed structure will prevent voluntary, commercially-arranged outcomes because the Benchmark Agreement will inhibit voluntary contracting.

3.3.3 During the drafting comments period, a party suggested that the Benchmark Agreement limited the potential for the establishment of multiple agreements in the future. This issue arose from possible restrictions in the wording of clause 4.3 of the Benchmark Agreement. The Commission has amended clause 4.3 to be certain that this situation does not arise.

3.4 The Commission's response

3.4.1 The Commission has noted the concerns expressed by submitters. It recognises that there would be greater flexibility for counterparties if a number of Benchmark Agreements that reflect the specific requirements of different classes of grid users were to be developed. However, this would result in higher transaction costs, and it remains the Commission's view that the benefits associated with the increased flexibility of having multiple agreements do not outweigh the increased transaction costs. Also, under the 'assets made available' approach, there is likely to be little or no difference in the services provided to different classes of users.

3.4.2 The Commission also notes that it is required by part F to propose a structure for transmission agreements and to develop a draft Benchmark Agreement. The Rules already provide for the Benchmark Agreement to operate as a default. However, the Commission has proposed a rule change allowing Transpower and counterparties to negotiate transmission agreements that are different from the Benchmark Agreement.

3.5 Conclusion

3.5.1 The Commission considers that the cost benefit analysis and assessment of the proposal and its alternatives, against the Commission's objectives as presented in Sections 4 and 12.1 of the Benchmark Agreement Consultation Paper, is still applicable.

3.5.2 The Commission considers that its proposed structure for transmission agreements is likely to result in greater net benefits than the reasonably practicable alternatives.

4. Counterparties to the Benchmark Agreement

4.1.1 This section sets out the Commission's proposed categories of designated transmission customers. Under rule 2.2, the Commission is required to propose appropriate categories of participants to be designated transmission customers ("counterparties") required to enter into transmission agreements with Transpower.

4.2 The Commission's proposal

4.2.1 The Commission's proposal is that the appropriate categories of participants to be designated transmission customers (counterparties), and, therefore, required to enter into transmission agreements with Transpower, are participants that are directly (physically) connected to the transmission grid. These are:

- (a) generators;
- (b) distributors; and
- (c) direct consumers that have a point of connection to the grid.

4.3 Submissions

4.3.1 The Commission received a total of 13 submissions, with nine supporting and four opposing the Commission's proposal. Submitters' comments focused on the following issues:

- (a) Supporting submitters considered that the contractual relationship with Transpower should be only with those parties that are directly connected to the grid. These parties have the greatest incentive to determine appropriate service levels and also have the ability to monitor the performance of the grid owner.
- (b) Opposing submitters considered that the proposed categories of counterparties should include the category of electricity retailers. This is because the relationship between retailers and end-use customers is important and retailers (who operate in a competitive marketplace) have the incentive to safeguard the interests of end-use customers.

4.3.2 An issue raised by Transpower in the drafting comments was that the Benchmark Agreement may fetter the Crown's ability to, at any time in the future, make changes in the shareholding of Transpower (although it noted that no such change is currently contemplated). This is because the Benchmark Agreement

permits changes in control of a party only with the consent of the other party (except in the case of parties listed on the stock exchange). Transpower considers that this limits the discretion that the Crown has in relation to the way it deals with Transpower in the future.

4.4 The Commission's response

4.4.1 The Commission considers that the concerns underpinning the view that retailers should be included as counterparties are better addressed by the Commission's proposal to include interconnection asset services in the Rules, and to provide for the Outage Protocol to be part of the Rules. Should Transpower breach the interconnection asset rules or the Outage Protocol, retailers would be able to complain under the Regulations.

4.4.2 Further, the Commission also thinks that it would be impractical and inefficient to require Transpower to contract with both distributors and retailers to provide connection services.

4.4.3 In relation to the point raised by Transpower during the drafting comment period, the Commission does not agree that the relevant clause of the Benchmark Agreement should be changed. First, the Crown is not a party to transmission agreements. Second, the clause is a reasonable commercial provision. Third, the Commission considers that the extent to which changes in the ownership of Transpower are limited is minimal as it is only the consent of other parties that is required, and that this consent cannot be unreasonably withheld.

4.5 Conclusion

4.5.1 The Commission considers that the cost benefit analysis and assessment of the proposal and its alternatives, against the Commission's objectives as presented in section 5.6 of the Benchmark Agreement Consultation Paper, is still applicable.

4.5.2 The Commission considers that its proposed structure for transmission agreements is likely to result in greater net benefits than the reasonably practicable alternatives.

5. Treatment of interconnection asset services

5.1 Introduction

5.1.1 The purpose of this section is to set out the Commission's approach to dealing with interconnection services and the definition of the High Voltage Direct Current (HVDC) Link as an interconnection asset.

5.1.2 The analysis presented in this section replaces that previously set out in section 3 of the Interconnection Rules Consultation Paper.

5.1.3 The Commission's proposal is unchanged, but the revised analysis in this section reflects the considerable discussion on these issues that occurred in the consultation process.

5.1.4 The Commission continues to consider that interconnection asset services should be dealt with in the Rules.

5.1.5 Similarly, the Commission's proposal to treat the HDVC Link as an interconnection asset is unchanged.

5.2 Submissions

5.2.1 The Commission received a large number of submissions and cross-submissions on the proposal to deal with interconnection asset services in the Rules. The Commission also received numerous submissions on the proposal to treat the HVDC Link as an interconnection asset under the Interconnection Rules.

5.2.2 The Commission summarised the submissions on the treatment of interconnection assets in section 6.1 and the treatment of the HVDC Link in section 6.2 of the Summary and Response Paper. These sections also included provisional responses from the Commission to the points raised in submissions. These submissions and provisional responses have been incorporated into the new cost benefit analysis and assessment against the Commission's objectives that is set out below.

5.2.3 A final proposal is set out below and is accompanied by a revised, complete set of 172F analysis.

- 5.3 The Commission's proposal
- 5.3.1 The Commission's proposal is that only connection services (covering asset-related and information-related components) and interconnection information services be included in the Benchmark Agreement, and that interconnection asset services be regulated under the Rules.
- 5.3.2 The Commission also recommends changes to section II of part F to make it clear that the Benchmark Agreement does not need to contain service definitions, measures, and levels for interconnection asset services. The Commission considers that, arguably, no change is required in this regard, but for the avoidance of doubt, it is proposing changes to rules 2.1.2 and 4.3.1.5. Interconnection information services would be dealt with in the Benchmark Agreement.
- 5.3.3 Under this proposal, "connection assets" and "interconnection assets" will be defined as in the new TPM except that "interconnection assets" will be defined to expressly include the HVDC Link (as defined in part A of the Rules). The express inclusion of the HVDC Link in the definition of "interconnection assets" is a change from the Commission's earlier drafting of these definitions, but is consistent with the proposals set out in the Benchmark Agreement Consultation Paper and the Interconnection Rules Consultation Paper, that the HVDC Link be treated as an interconnection asset.
- 5.3.4 The earlier proposed definitions of "connection asset" and "interconnection asset" also referred to the pricing methodology that currently applies to Transpower under the Electricity (Transpower's Pricing Methodology) Regulations 2004. At the time the definitions were proposed, it was anticipated that there could have been a period of time between the Benchmark Agreement and Interconnection Rules being made and the TPM being made, meaning that the definitions under these Regulations would have needed to apply. However, the Commission now anticipates that the TPM will be added to the Rules at or about at the same time as the Benchmark Agreement and the Interconnection Rules (although it would not take effect until 1 April 2008 – the same date as the Benchmark Agreement). Accordingly the reference to the Electricity (Transpower's Pricing Methodology) Regulations 2004 has been dropped.

5.4 The Commission's objectives

5.4.1 The Commission considers that the objectives it identified in the Interconnection Rules Consultation Paper as being relevant in making its original proposal continue to apply. These were to:

- (a) ensure that interconnection services are provided in an efficient, fair and reliable manner;
- (b) ensure that interconnection services are provided at the standards of power quality and grid reliability required by grid users and consumers, as determined by the Commission; and
- (c) encourage continuous improvement in the efficiency of transmission services so as to produce the services grid users and consumers want at least cost.

5.4.2 The objectives in sub-paragraph (a) are drawn from the Commission's principal objectives in section 172N(1) of the Act. The objectives in sub-paragraphs (b) and (c) are drawn from the objectives for transmission set out in paragraph 80 of the GPS.

5.4.3 While the Commission's principal objectives in section 172N also include objectives relating to environmental sustainability and the efficient use of electricity, and the objectives in paragraph 80 of the GPS also provide for other matters, the Commission does not consider that these are as relevant to determining the appropriate approach to interconnection services.

5.4.4 The Commission considers that these same objectives are also relevant in the assessment of the treatment of the HVDC Link.

5.5 Statement of reasons

5.5.1 As set out in the Interconnection Rules Consultation Paper, the Commission's reasons for proposing that interconnection asset services be regulated under the Rules were:

- (a) interconnection services have a strong common-good nature, making it necessary to use a multilateral approach to setting service levels;
- (b) interconnection asset services affect a broader range of participants than connection services, and the rule breach process allows all interested

participants (rather than only designated transmission customers) to enforce the provision of services;

- (c) there is a significant risk of bilateral monopoly and hold-out problems for interconnection asset services under a contractually-based approach, which would require some external mechanism to resolve disputes regarding service definitions, measures and levels;
- (d) the Commission considers it quite unlikely that a Benchmark Agreement for interconnection asset services (as the default agreement) would contribute towards enabling commercial arrangements in the form of transmission agreements, which is a primary purpose of the Benchmark Agreement; and
- (e) the Commission considers that a rules-based approach is consistent with the approach to common quality under part C of the Rules.

5.5.2 The Commission continues to consider that the five reasons above are all good reasons for including interconnection asset services in the Rules.

5.5.3 The definition of connection assets and interconnection assets according to the TPM is proposed, in part, because of the linkages between the TPM and the Benchmark Agreement. Section II of part F requires Benchmark Agreements to include, among other things, an obligation on counterparties to pay prices calculated in accordance with the application of Transpower's approved TPM. Likewise, rule 10.1 of section IV of part F (which provides for preparation of the TPM) requires the approved TPM to be incorporated in transmission agreements between Transpower and counterparties. In addition, the TPM proposes a deep definition of connection assets that the Commission considers is appropriate for the Benchmark Agreement and the Interconnection Rules.

5.5.4 The Commission considers that treating the HVDC Link as an interconnection asset is the best option as it maximises net benefits and best progresses the Commission's objectives. This issue was discussed in the Summary and Response Paper. The proposed approach:

- (a) efficiently recognises the interests of the wide range of beneficiaries in:
 - (i) operation, maintenance and investment decisions; and
 - (ii) setting and enforcing service measures;
- (b) allows the Rulings Panel to consider all relevant interests, and not just those of South Island Generators;

- (c) is efficient in terms of minimising transaction costs associated with multilateral negotiations; and
- (d) forms the basis of a consistent and appropriate regulatory framework in relation to locational pricing and the allocation of decision making rights.

5.6 Reasonably practicable alternatives

Treatment of interconnection assets

5.6.1 The Commission still has concerns relating to the feasibility and practicality of the 'Benchmark Agreement approach' for interconnection assets but has included this approach as a reasonably practicable option for the purpose of the 172F analysis set out below. The Commission's concerns with regards to the feasibility of this option are clearly shown in the analysis of this approach.

The Benchmark Agreement approach

5.6.2 The Benchmark Agreement approach would involve addressing interconnection services wholly in the Benchmark Agreement.

5.6.3 Under this approach, Transpower and its counterparties (which could include retailers as directly affected participants, as some submitters proposed) would either:

- (a) agree on a transmission agreement that is consistent with the Benchmark Agreement; or
- (b) if they are unable to reach agreement, enter into a contract on the terms set out in the Benchmark Agreement.

5.6.4 The Benchmark Agreement would specify a set of service definitions and associated service measures, similar to the proposals for connection services. Service levels would be determined by a process set out in the Rules, similar to that currently proposed in relation to the connection assets. Failure between counterparties, or between counterparties and Transpower, to agree on the service levels would result in the Rulings Panel determining them, in accordance with rule 6.

5.6.5 Under the Benchmark Agreement, transmission customers would monitor and enforce Transpower's performance against the service levels and its compliance with reporting requirements. This would be undertaken through normal

commercial mechanisms. However, there would be dispute resolution procedures specified in the Benchmark Agreement. The Benchmark Agreement would also set out the basis on which Transpower would be liable for breach. However, reliability and availability service levels would not be enforceable.

- 5.6.6 As with connection assets, the Benchmark Agreement would not itself provide for enforcement of the capacity measures for interconnection assets. Instead, a net benefit assessment approach to outage planning and changes in capacity measures under an Outage Protocol and other rules provisions would also apply under this approach.

The co-regulatory approach

- 5.6.7 This would involve establishing a multilateral body of grid users to negotiate interconnection services with Transpower, the results of which would be codified in the Rules. This approach would require the Commission to specify multilateral decision-making processes and criteria for determining interconnection services in the Rules. Where the parties are unable to reach agreement, the Rules would provide for the Commission or the Rulings Panel to arbitrate. A multilateral body comprising, and funded by, Transpower's customers would be established to monitor Transpower's performance. Transpower's customers, either individually or via the multilateral body, would invoke rule breach processes to enforce Transpower's performance commitments. It is possible that the co-regulatory approach would require an authorisation under the Commerce Act 1986.

Definition of connection and interconnection assets

- 5.6.8 A number of submitters expressed concern that the linkage of the definitions of connection and interconnection assets to the TPM would:
- (a) allow Transpower to unilaterally differentiate between connection and interconnection assets in the Benchmark Agreement and Interconnection Rules; and
 - (b) give rise to two definitions of 'core grid'.
- 5.6.9 The Commission considers the assertion that it is creating two definitions of core grid has arisen because some submitters believe that core grid assets and interconnection assets should relate to the same assets, and clearly they do not. The Commission notes there is no requirement that they should define the same assets.

- 5.6.10 The core grid definition which has been consulted on and decided upon was related to the application of the grid reliability standards. The majority of submissions (and the Board agreed) supported a transitional safety net for defining the core grid (for loss of load greater or equal to 150MW). Submitters wanted the apparently greater certainty of a simple deterministic method for determining the requirements for some grid assets. For the above reason, the purpose of the core grid definition has an entirely different purpose than the definition for interconnection assets.
- 5.6.11 However, the Commission does not consider that, within the scope of the Benchmark Agreement, there are any reasonably practicable alternatives for defining connection and interconnection assets. The Commission considers that the strong linkages between the TPM and the Benchmark Agreement means that “connection assets” should have the same meaning under the TPM.
- 5.6.12 For further discussion of this issue, interested parties should see paragraphs 6.1.20 to 6.1.22 of the Commission’s Summary and Response Paper.

Treatment of the HVDC Link

- 5.6.13 The Commission considers that the only reasonably practicable alternative to the proposal for the purposes of the section 172F analysis (i.e., treating the HVDC Link as an interconnection asset) is to address the HVDC Link through a multilateral contract between South Island Generators and Transpower.
- 5.6.14 This approach reflects that submitted by Meridian following the conference³. The HVDC Link contract approach would:
- (a) create a separate contract for the HVDC Link;
 - (b) have South Island Generators as counterparties; and
 - (c) allocate to counterparties:
 - (i) final decision rights on any proposed investment;
 - (ii) control over outages and types of maintenance, including outage recall rights;

³ Meridian’s letter to the Commission is attached to this paper as Appendix B.

- (iii) control over whether to offer instantaneous reserves and frequency keeping, including pricing for such services;
- (iv) consultation and approval of operating protocols and procedures; and
- (v) compensation (either a full unconditional service guarantee (**USG**) or fee rebate) for any unavailability.

5.6.15 The Commission has concerns relating to the feasibility of a HVDC Link contract for the same reasons that the Commission has concerns about the option of including of interconnection assets in the Benchmark Agreement. These reasons are that:

- (a) a multilateral agreement between South Island Generators and Transpower would likely result in disputes in relation to the operation and maintenance of the HVDC Link. Agreement on particular investments in, or upgrades of, the HVDC Link would also be unlikely; and
- (b) as there a wide range of beneficiaries of the HVDC Link, it is necessary to allow these parties to monitor and enforce the operation of the HVDC Link.

5.6.16 The Commission's concerns with regards to the feasibility of this option are clearly shown in the analysis of the HVDC contract approach.

5.7 Assessment of proposal and alternatives

Treatment of interconnection assets

5.7.1 The Commission notes that while the structure and parts of its analysis below are unchanged, elements of this analysis have been revised to reflect information received by the Commission in submissions.

Cost benefit analysis

5.7.2 The key issues for the cost benefit analysis are:

- (a) the setting of service measures and levels; and
- (b) the monitoring and enforcement arrangements.

5.7.3 The Commission has quantified the costs and benefits of the proposal and reasonably practicable alternatives. The assumptions underpinning this quantification are detailed in the analysis of the two issues above, and a

summary of the quantitative analysis is set out at the end of this cost benefit analysis section. While the Commission's proposal for interconnection assets covers the HVDC Link, the Commission has also separately assessed its proposed approach to the HVDC Link, given the concerns raised by a number of parties.

Setting service measures and levels

- 5.7.4 Under the Benchmark Agreement approach, Transpower and counterparties would first attempt to enter into a transmission agreement.
- 5.7.5 Given the common nature of interconnection services, it would be extremely difficult for agreement to be reached through a series of bilateral negotiations between Transpower and counterparties. These negotiations would also be complex and costly, increasing transaction costs compared to the Commission's proposed rules-based approach.
- 5.7.6 Under the Benchmark Agreement approach, failure to reach agreement would mean that either that the Rulings Panel would become involved (in the event that rule 6 applied) or that the Benchmark Agreement would apply as the default agreement. It would also be difficult to determine the service levels for interconnection assets under a Benchmark Agreement approach, due to the common good nature of interconnection services, with the result that it is highly likely that the Rulings Panel would need to become involved and arbitrate between the parties.
- 5.7.7 If the Benchmark Agreement applied, service levels would still need to be set through a regulatory or administrative process.
- 5.7.8 Where a dispute is referred to the Rulings Panel, it is likely to involve multiple parties. A multilateral dispute resolution process is likely to be cumbersome, more costly to manage and less transparent than the public consultation process that is followed for the making of rules.
- 5.7.9 The Commission has quantified the additional costs associated with the Benchmark Agreement approach. The additional cost of bilateral negotiations between Transpower and designated transmission customers over the expected term of the agreements is estimated to be \$800,000. This cost is based on costs for Transpower of \$100,000 and costs per counterparty of \$20,000, with 35 counterparties.

- 5.7.10 This costing is based on all counterparties attempting to negotiate terms of the transmission agreement and service levels with Transpower. Costs include the cost of obtaining external legal advice and the use of internal technical and managerial staff to negotiate with Transpower on service levels. Transpower's estimated costs are higher than those of individual counterparties, as it will have to negotiate with multiple parties simultaneously.
- 5.7.11 The additional cost of resorting to dispute resolution processes or the Rulings Panel compared to the consultation processes under the Rules is estimated to be \$400,000. This is based on an estimated cost of \$50,000 to Transpower and \$10,000 for each of the 35 counterparties to participate in the consultation process required under the proposed approach. This is a conservative estimate, as it likely some of the larger or most affected parties would spend more than \$10,000 on the dispute resolution process.
- 5.7.12 The overall costing is based on Transpower incurring higher costs than counterparties because it would be involved in all disputes, but it would also benefit from some economies of scale, as many of the disputes are likely to involve issues that are common across all counterparties. Counterparty costs are based on the requirement for external legal advice and the use of internal technical and managerial resources.
- 5.7.13 Under the co-regulatory and rules-based approaches the service definitions, measures and levels for interconnection, and any changes to them, could be determined more efficiently because the extent and complexity of the negotiation required is reduced. The co-regulatory approach could result in the services being defined in a way that better meets parties' needs, as it allows parties to arrive at their own negotiated outcome.
- 5.7.14 However, the co-regulatory approach is more likely to be affected by 'hold-out' and 'free rider' problems, due to the need for the bilateral body to represent a diverse range of interests. Failure to agree on service definitions, measures and levels through the multilateral process would lead to arbitration by the Commission or the Rulings Panel. As a result, this approach may result in outcomes that are little different from a Benchmark Agreement approach. Moreover, many other parties besides designated transmission customers will have a keen interest in interconnection service outcomes, but may not be adequately represented by designated transmission customers in the multilateral process.

5.7.15 Under the rules-based approach there would be no commercial negotiation between parties, except where Transpower and a customer negotiate departures from the Rules⁴. This will generally result in lower transaction costs and, specifically, lower administration costs compared to the alternative options. This is because the grid owner is not required to reach agreement with all affected parties, and there is no need to establish and oversee a multilateral body.

Monitoring and enforcement

5.7.16 Under the Benchmark Agreement approach, individual transmission customers would monitor Transpower's performance. Note that the Commission proposes that reliability and availability measures will be for information only. Capacity measures would be enforced though an outage protocol under all three reasonably feasible options⁵. Therefore, the differences between the three approaches are limited to monitoring and do not relate to enforcement.

5.7.17 The Commission still considers that there is a risk that 'free rider' problems may deter or prevent interconnection parties from monitoring Transpower's performance. The co-regulatory approach avoids this problem by sharing the costs of monitoring and enforcement activity across all grid users.

5.7.18 While the co-regulatory approach by its collective approach is likely to provide a more effective process for resolving disputes than the Benchmark Agreement, there are still likely to be differences in the underlying interests of transmission customers, which may impede effective monitoring and enforcement⁶.

5.7.19 An advantage of the rules-based and co-regulatory approaches over the Benchmark Agreement approach is that the Commission or multilateral body would avoid the duplication of many firms undertaking monitoring. However, customers would still undertake some monitoring activity.

5.7.20 While the Commission acknowledges that levy costs may increase to pay for the Commission's performance monitoring activities, this cost is still expected to be

⁴ While there are no formal negotiations between the grid owner and its customers, in practice the process of formulating and proposing new rules and receiving submissions could be considered to be a form of negotiation.

⁵ In theory, the Benchmark Agreement could require Transpower to seek agreement from all counterparties for the scheduling of outages. This is unlikely to be practicable and, therefore, it is assumed that Transpower would schedule outages in accordance with the net benefit assessment.

⁶ Even with interconnection services there may be significant variation in services across groups of grid users. For example, between grid users upstream and downstream of binding constraints.

considerably less than relying on enforcement by individual parties under the transmission agreements.

5.7.21 The Commission has estimated the cost of monitoring under the Benchmark Agreement approach based on 35 counterparties spending \$10,000 per year on monitoring. The Commission is estimated to spend \$30,000 per annum. Costs are doubled in the first year of monitoring to allow for establishment costs. Under the rules-based approach, the Commission’s costs increase to \$50,000 per annum, while counterparties spend 70% (or \$7,000) per annum. Transpower’s costs are assumed to be the same on either approach.

5.7.22 The Commission considers that under the rules-based approach, participants other than counterparties would also monitor the performance of Transpower. The Commission has estimated that the additional costs by estimating that five large participants would monitor Transpower at an additional cost of \$5,000 per annum and ten other participants would monitor Transpower at a cost of \$1,000 per annum.

Summary of quantitative analysis

5.7.23 Table 4 below sets out a summary of the estimated quantitative benefits and costs of a rules-based approach compared to the Benchmark Agreement for interconnection services.

Table 4 Summary of Quantitative Analysis: Rules-based approach to interconnection services

| Benefits Enhanced/Cost Avoided | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Total Nominal Benefits (\$000) |
|-----------------------------------------|----------------|--------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------------------|
| <i>Setting service levels</i> | | | | | | | | | | | | 0 |
| avoided costs of negotiations | \$800 | | | | | | | | | | | \$800 |
| avoided costs of disputes | \$400 | | | | | | | | | | | \$400 |
| <i>Monitoring Performance</i> | | | | | | | | | | | | |
| avoided costs due to economies of scale | | \$260 | \$130 | \$130 | \$130 | \$130 | \$130 | \$130 | \$130 | \$130 | \$130 | \$1,430 |
| Present Value of Benefits (2008) | \$1,200 | \$243 | \$114 | \$106 | \$99 | \$93 | \$87 | \$81 | \$76 | \$71 | \$66 | |

| Benefits Reduced/Additional Costs | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Total Nominal Costs (\$000) |
|---------------------------------------------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------------------|
| Additional monitoring by other interested parties | | -\$35 | -\$35 | -\$35 | -\$35 | -\$35 | -\$35 | -\$35 | -\$35 | -\$35 | -\$35 | -\$350 |
| Present Value of Costs (2008) | \$0 | -\$33 | -\$31 | -\$29 | -\$27 | -\$25 | -\$23 | -\$22 | -\$20 | -\$19 | -\$18 | |

| | \$ 000 |
|--------------------------|----------------|
| Total present Benefits | \$2,235 |
| Total Present Costs | -\$246 |
| Net Present Value | \$1,989 |

Assessment against the Commission's objectives

Efficient production and delivery of electricity

5.7.24 As discussed above in the amended cost benefit analysis, the Commission considers that the proposed approach will maximise net benefits compared to the reasonably practicable alternatives.

Fair production and delivery of electricity

5.7.25 The options for the determination of interconnection assets have the potential to have an impact on fairness through the balance they strike between the interests of grid users and the grid owner, and between grid users. In this respect, the Commission considers that the rules-based and co-regulation approaches are likely to better provide for fairness between parties by overcoming 'free-rider' problems with monitoring performance which may occur under the Benchmark Agreement approach.

Reliable production and delivery of electricity

5.7.26 The Commission considers that all the reasonably practicable options would be expected to contribute towards a reliable electricity supply by providing an incentive for Transpower to propose and make grid investments. However, the Benchmark Agreement approach for interconnection assets is likely to make it more difficult to reach agreement on appropriate service levels due to its reliance on multi-lateral negotiation. The co-regulatory and rules-based approaches would be expected to overcome free-rider problems with monitoring. They would also be expected to provide stronger incentives for efficient investment in transmission and, therefore, would be expected to contribute more strongly towards reliable production and delivery of energy.

Services are provided at the standards of power quality and grid reliability required by grid users

5.7.27 On balance, the co-regulatory and rules-based approaches are more likely than the Benchmark Agreement approach to provide for the grid reliability required by grid users because they are less likely to suffer from free-rider problems in the areas of monitoring and enforcement. The co-regulatory approach is more likely than the rules-based approach to lead to service levels that directly reflect the views and needs of grid users. Therefore, it is likely to contribute more strongly towards this objective.

Continuous improvement in the efficiency of transmission services

- 5.7.28 The Benchmark Agreement approach has the advantage of allowing the parties to agree to variations to the services (subject to rule 5.2). However, the same result can be achieved under a rules-based approach and, potentially, under co-regulation.
- 5.7.29 The common nature of interconnection services will make it extremely difficult to gain agreement under the Benchmark Agreement approach to service variations simultaneously between multiple grid users and the grid owner.
- 5.7.30 The co-regulatory and the rules-based approaches are likely to provide stronger incentives because they provide more effective monitoring of Transpower's performance.

Conclusion

- 5.7.31 For the reasons set out above, The Commission continues to be of the view that that interconnection asset services are best addressed in the Rules.

Treatment of HVDC Link interconnection assets

Cost benefit analysis

- 5.7.32 The Commission has undertaken a cost benefit analysis of the proposal that the HVDC Link be treated as an interconnection asset against the HVDC Link contract approach (as submitted by Meridian as the counterfactual).
- 5.7.33 As background, the Commission's decision in relation to the HVDC pricing methodology acknowledged that there are a wide range of beneficiaries to the HVDC Link. However, the decision to allocate the HVDC charge to South Island Generators was favoured under the application of the relevant criteria for the pricing decision (the Pricing Principles, the practical considerations and the Commission's specific outcomes)⁷.
- 5.7.34 The proposal in this section is referred to as the 'rules-based approach' as treatment of the HVDC Link as an interconnection asset means that the HVDC

⁷ For further information on this assessment see Section 3 of the "*Explanatory paper – Commission's final decision HVDC transmission Pricing methodology*" (10 March 2006). This is available at: <http://www.electricitycommission.govt.nz/pdfs/opdev/transmis/tpg/Final-hvdc-pricing-10mar06.pdf>

Link is covered by the Interconnection Rules. The alternative HVDC Link contract approach is referred to as the 'contract-based approach'.

- 5.7.35 The Commission has considered whether it is possible to quantify the costs and benefits of the proposal to treat the HVDC Link as an interconnection asset separately from the costs and benefits of its overall approach to interconnection assets, as discussed above. The Commission does not consider that the benefits and costs are reasonably quantifiable. This is because the Commission cannot accurately quantify:
- (a) the costs associated with failing to consider the effect on all beneficiaries in maintenance, operation and investment decisions; or
 - (b) the costs arising from excluding the beneficiaries from any process to enforce service measures.
- 5.7.36 The Commission has, therefore, considered the costs and benefits of its proposal and the alternative in qualitative terms.

Operation, maintenance and investment

- 5.7.37 The Commission considers that the proposed rules-based approach results in more efficient operation and maintenance of, and investment in, the HVDC Link compared with the contract-based approach. The Commission considers that there are two dimensions to this improved efficiency.
- 5.7.38 First, the contract-based approach is likely to suffer from disputes between the counterparties (South Island Generators) in terms of the operation, maintenance and investment. This problem would arise in situations where the benefits and incentives of South Island Generators were not aligned. This, for example, could occur when one counterparty favoured investment, but other South Island Generators did not. In this example, multilateral negotiation between the counterparties suffers from a hold-out problem in that one or several parties may inefficiently favour no investment. In this situation, the Commission may be required to decide on the investment using the Grid Investment Test (**GIT**)/Grid Upgrade Plan (**GUP**) process (and thereby taking into account national benefits). This example demonstrates that the GIT/GUP process may be the most efficient and effective process for grid investment.
- 5.7.39 Secondly, the Commission considers that it is inefficient to exclude the considerations and interests of the wide range of beneficiaries to the HVDC Link from operation, maintenance and investment decisions. The Commission

considers that the rules-based approach will efficiently include these beneficiaries' interests in decisions, whereas the contract-based approach would predominantly consider the interests of South Island Generators.

Rulings Panel

- 5.7.40 The Rulings Panel will have the ability to consider the extent to which a party's interests are affected by breaches of the Rules or the Outage Protocol.
- 5.7.41 The Commission considers that the use of the Rulings Panel in the rules-based approach will mean that parties' interests are fairly and efficiently considered. This is because the Rulings Panel is able to assess each rule breach on a case by case basis.
- 5.7.42 The contract-based approach will limit consideration of the arbitrator (as specified in the contract) to the interests of South Island Generators.
- 5.7.43 The Commission accepts that the interests of South Island Generators are likely to be greater than other parties and that their interests may be the only relevant interests in some circumstances. However, a rules-based approach will allow the Rulings Panel to reflect not only the greater interests of South Island Generators when appropriate, but also the interests of other parties when that is appropriate.

Setting service measures

- 5.7.44 Service measures under the contract-based approach would either be:
- (a) negotiated multilaterally – the Commission considers that an effective outcome from this process would be unlikely. In this case it is not possible to predict what service measures would be agreed to; or
 - (b) decided by an arbitrator or established in a benchmark contract by the Commission – the Commission considers this outcome is significantly more likely. The service measures set by the Commission or an arbitrator are unlikely to be significantly different to those set out in this paper except for the exclusion of service measures not relevant to South Island Generators by an arbitrator.
- 5.7.45 Given points (a) and (b) above, the Commission considers that the contract-based approach and rules-based approach will likely lead to similar service measures for South Island Generators. For other beneficiaries of the HVDC Link, relevant service measures may be included in the HVDC Link contract. The

Commission notes the there is a unique set of service measures for the HVDC Link.

- 5.7.46 The Commission considers that under the contract-based approach, the multilateral negotiation before applying the benchmark contract or employing an arbitrator is inefficient and is an additional transaction cost compared to the rules-based approach.

Enforcement of capacity measures

- 5.7.47 The Commission considers that the proposed rules-based approach is more efficient than the contract-based approach. This is because the proposal allows all beneficiaries to enforce the capacity service measures whereas the contract-based approach will allow only South Island Generators to enforce service measures.
- 5.7.48 The service measures under the rules-based approach will require Transpower to provide counterparties with the capacities of the following configurations of the HVDC Link: Bipole; Pole Two and One half Pole; Pole Two only; Pole One only; both half Poles; Pole One Only; one half Pole. The enforceability of these service measures would be as per the compensation and liability proposal in Section 17 of this paper. Counterparties and interested parties will initiate the rule breach process whenever it is their interest.
- 5.7.49 Under the contract-based approach, regardless of the capacity measures that are established, only South Island Generators will be able to enforce those measures. Moreover, these measures will only be enforced when it is in the interest of a South Island Generator.
- 5.7.50 The Commission considers it is likely that the same set of service measures will apply under both approaches (see the “setting service measures” section above). The Commission, therefore, considers that the proposed rules-based approach will allow a wider range of interested parties to complain about breaches of service measures (which will be investigated by the Commission and enforced by the Rulings Panel). This in turn will provide a stronger incentive on Transpower to provide HVDC interconnection assets according to the service measures.

Future locational pricing decisions

- 5.7.51 The Commission considers that it is important that regulatory decisions are consistent in terms of establishing a predictable decision making framework. The

decision to allocate the HVDC charge to South Island Generators sends a locational transmission pricing signal to those generators. A more extensive locational pricing signal was not considered practicable when this decision was made. However, the Commission did signal that it would undertake a locational pricing review in the future.

- 5.7.52 If South Island Generator were to receive decision making rights over the HVDC Link as a result of a location pricing decision, the Commission considers that, in order to be consistent, it should allocate decision making rights to other locationally priced interconnection assets. For the reasons discussed in the subsections above, the Commission does not consider that this situation is effective or efficient. The Commission also notes that Transpower's and counterparties' administrative costs would be high if there were a number of asset specific contracts.
- 5.7.53 The Commission considers that it is important to create a stable and consistent regulatory framework and, therefore, favours the proposed treatment of the HVDC Link as this decision reflects the approach the Commission would adopt for other location priced interconnection assets.

Conclusion

- 5.7.54 The Commission favours the proposed treatment of the HVDC Link as an interconnection asset because it would result in greater net benefits than the contract-based approach. It, therefore, prefers that the HVDC Link be covered by the Interconnection Rules, rather than under a contract-based approach because the proposal maximises net benefits. The Commission has reached this view because the proposal:
- (a) efficiently recognises the interests of the wide range of beneficiaries in:
 - (i) operation, maintenance and investment decisions; and
 - (ii) setting and enforcing service measures;
 - (b) allows the Rulings Panel to consider all relevant interests, and not just those of South Island Generators;
 - (c) is efficient in terms of minimising transaction costs associated with multilateral negotiations; and
 - (d) forms the basis of a consistent and appropriate regulatory framework in relation to locational pricing and the allocation of decision making rights.

Assessment against the Commission's objectives

Efficient production and delivery of electricity

5.7.55 As discussed above, the Commission considers that the proposal is the most efficient option. That is, the Commission considers the proposal will maximise net benefits.

Fair production and delivery of electricity

5.7.56 The proposal and alternative can impact on fairness by altering the balance between the interests of individual grid users, and between the interests of grid users as a group and the grid owner. In this respect, the Commission considers that the proposal is likely to be fairer by taking into account the interests of all beneficiaries in operation, maintenance and investment decisions, and the establishment and enforcement of service measures.

Reliable production and delivery of electricity

5.7.57 The Commission considers that both approaches would contribute towards a reliable electricity supply by providing an incentive on Transpower to undertake grid investments. However, the hold out issue associated with the contract-based approach is likely to limit the extent to which investment is undertaken. The Commission, therefore, considers that the proposal best meets this objective.

Services are provided at the standards of power quality and grid reliability required by grid users

5.7.58 The Commission considers that, as more parties will be able to allege breaches of the capacity measures (which could be investigated by the Commission and enforced by the Rulings Panel), the proposal will place a stronger incentive on Transpower to deliver services that reflect the standards of power quality and grid reliability required by grid users.

5.7.59 The Commission also considers that if multilateral negotiation was successful that the service measures for the HVDC Link may better reflect the requirements of grid users. However, only a subset of grid users' interests would be reflected, whereas other grid users' requirements may be neglected.

- 5.7.60 As the Commission considers that the scenario in paragraph above is unlikely to occur, the Commission considers that the proposal best meets this objective as more parties will enforce the service measures.

Continuous improvement in the efficiency of transmission services

- 5.7.61 Under a contract-based approach, the hold-out problem associated with operation, maintenance and investment decisions is likely to cause inefficiencies, as is the exclusion of all beneficiaries' interests if investments are bilaterally negotiated. The proposal overcomes both of these problems by using the GIT/GUP process.
- 5.7.62 The requirement for multilateral agreement would make it extremely difficult to gain agreement under the contract-based approach to variations in a HVDC contract. The rule change process to change aspects of the Rules relating to the HVDC Link would still need to be followed, which takes time, but does not suffer from hold-out problems.
- 5.7.63 The Commission considers that, as more parties will be able to complain about breaches of the capacity measures (which could be investigated by the Commission and enforced by the Rulings Panel), the proposal will place a stronger incentive on Transpower to deliver services that reflect the standards of power quality and grid reliability required by grid users.

Conclusion

- 5.7.64 For the reasons set out above, the Commission considers that the treatment of the HVDC Link as an interconnection asset is the best option as it best meets the relevant objectives of the Commission.

6. Service definitions - Benchmark Agreement and Interconnection Rules

6.1 Introduction

6.1.1 This section sets out the Commission's final proposals for the overall approach to defining the services covered by the Benchmark Agreement and Interconnection Rules.

6.1.2 Part F of the Rules requires the Commission to specify service definitions, service measures and service levels in the Benchmark Agreement 'to the extent practicable' (rule 4.3.1.5).

6.1.3 The Commission's proposal that the asset availability approach be used is unchanged from that set out in the Benchmark Agreement Consultation Paper and the Interconnection Rules Consultation Paper. The Commission notes that it has revised its proposal for investing to maintain the Grid Reliability Standards (**GRS**). The effect of this revision is discussed at the end of this section.

6.1.4 The analysis in this section is intended to clarify points arising from the consultation. That is, the analysis of the proposal for service definitions against section 172F of the Act is set out in:

(a) Section 7 of the Benchmark Agreement Consultation Paper; and

(b) Section 4 of the Interconnection Rules Consultation Paper.

6.1.5 This section provides further clarification and responses to issues submitted. The Commission considers that, while this section does not add to the 172F analysis of the proposals, it will assist parties in understanding the Commission's reasoning for the proposals. The Commission considers that amendments to the proposal for investing to maintain the GRS strengthen the service definition proposal.

6.2 Proposed overall approach to defining services under the Benchmark Agreement

6.2.1 The Commission's final proposal on the overall approach to defining services is unchanged from that in Section 7.3 of the Benchmark Agreement Consultation Paper and Section 4.1 of the Interconnection Rules Consultation Paper.

- 6.2.2 The proposal is that the services under the Benchmark Agreement and Interconnection Rules will be defined in accordance with the asset availability approach. The asset availability approach has three main service components:
- (a) making connection assets available to connection customers (and the system operator) at ratings specified in the Benchmark Agreement;
 - (b) making interconnection assets available to the system operator at ratings specified in a schedule to the Rules; and
 - (c) making information available to customers to enable them to manage their assets and customers efficiently.

Benchmark Agreement

Submissions

- 6.2.3 In the Summary and Response Paper, the Commission noted widespread support for adopting the asset availability approach for defining connection services.
- 6.2.4 Vector favoured the meet demand approach, believing that it would be more likely to ensure services are provided to meet desired outcomes, and would help promote innovation in the delivery of services.

Commission response

- 6.2.5 The key difference between the asset availability and meet demand approaches is that decision rights for new investment would rest with designated transmission customers under the asset availability approach and with the grid owner under the meet demand approach.
- 6.2.6 Assigning stronger decision rights on new investments to designated transmission customers is more likely to lead to innovative, least cost solutions to new investments for connection assets than leaving those decisions solely to the grid owner. This is because designated transmission customers bear the costs of new investment decisions and, therefore, have the incentive to ensure any new investment is innovative and least cost.
- 6.2.7 In the long term, the stronger incentives associated with the asset availability approach means that it is more likely to lead to lower overall costs than the meet

demand approach. That is, the asset availability approach is more likely to achieve dynamic efficiency benefits.

6.2.8 It could be argued that the meet demand approach would also lead to innovative, least cost solutions to new investments for connection assets. This argument rests on the belief that Transpower would have an incentive to incur costs developing efficient solutions if it has decision rights and responsibility for the design of the investment. The argument implies that, if the decision over what assets are installed rests with someone other than Transpower, it has little incentive to offer anything other than a 'standard' design.

6.2.9 However, the Commission considers that the potential benefits associated with the meet demand approach in terms of promoting innovation are only likely to occur in competitive markets where service providers face incentives to take risks and develop new services, and where their success depends on finding willing buyers for those new services. It is unlikely that this innovation in service delivery would materialise in the absence of a competitive market. It is also necessary to consider the risk of over-investment or poor investment decisions in the absence of competitive pressure.

6.2.10 The Commission considers that under both the proposed asset availability approach and the meet demand approach, Transpower and designated transmission customers have similar incentives to ensure connection assets have adequate capacity to meet expected demand. Therefore, both options are likely to provide similar benefits to end use customers in terms of meeting capacity.

Process for investment

6.2.11 The Commission has revised its proposal relating to the process for investing in connection assets to maintain the GRS. This sub-section briefly discusses this change.

6.2.12 The effect of the asset availability approach for connection assets is that decision rights for investment decisions would initially lie with connected parties, as Transpower cannot expand connection capacity without the agreement of the relevant connected parties. For connection assets, the Benchmark Agreement will provide for Transpower and the counterparty (or counterparties) to agree on any new investment. If the connected party and Transpower do not agree to new investment (and subject to complying with rule 5, good electricity industry practice, and negotiating any necessary land access with Transpower), the counterparty would be able to:

- (a) carry out investment itself;
- (b) contract with a third party to do so; or
- (c) take some other action to address the situation, as it sees fit.

6.2.13 For full details on this proposal see Section 13.6.

6.2.14 The Commission does not consider that the change to the proposal for investment to maintain the level of reliability of connection assets to the level in the GRS affects the outcome of the analysis set out in section 7.3 of the Benchmark Agreement Consultation Paper. In fact, as this proposal provides stronger decision making rights for new connection investments to connected parties, innovation and efficient solutions are more likely to be reached. This is because the counterparty faces a far stronger incentive to innovate and reach a least cost solution.

Conclusion

6.2.15 The Commission considers that the cost benefit analysis and assessment of the proposal against the Commission's objectives in section 7.3 of the Benchmark Agreement Consultation Paper is still applicable.

6.2.16 The Commission considers that the asset availability option will result in greater net benefits than the reasonably practicable alternative through creating incentives to minimise the cost of new investments.

6.3 Interconnection Rules

Submissions

6.3.1 Of the submissions received by the Commission, 13 commented on options for defining transmission services in general. In respect of the proposal for the definition of interconnection asset services, key issues commented on by submitters were:

- (a) The alternative meet demand approach would be more likely to ensure services are provided to meet outcomes. The asset availability approach would potentially reduce incentives to innovate and drive efficiency by removing the accountability from the asset owner. It is the outcome that is of primary interest to consumers irrespective of the assets that provide the outcome.

- (b) The services that customers receive are a combination of services provided by the grid owner and the system operator. It appears that only grid owner services would be covered by the Benchmark Agreement and Interconnection Rules. The result is the provision of a dead grid whereas customers require a live grid service, as the value of the grid to the customer is its ability to deliver energy. The asset availability approach should be augmented by meaningful and enforceable measures of transmission service quality.
- (c) Transpower was concerned with a number of issues related to implementation, particularly the limits to Transpower's ability to change the grid configuration or asset performance other than pursuant to a customer agreement, as approved by the Commission in a GUP, or in accordance with the Outage Protocol.
- (d) The issue is one of *useful availability* rather than availability per se. This suggests that a hybrid of the asset availability and meet demand approaches could be appropriate.

Commission response

- 6.3.2 The Commission noted the support for the asset availability approach for interconnection assets.
- 6.3.3 The Commission disagrees with the view that the Interconnection Rules should cover aspects of the system operator role. However, the Commission accepts that the effective provision of transmission services will depend on the performance of both the grid owner and the system operator. The Commission notes that the responsibilities of the system operator for common quality should continue to be addressed under part C and, therefore, the Commission does not consider that bundling together the role of system operator and grid owner will promote efficiency.
- 6.3.4 The Commission considers that the potential benefits associated with the meet demand approach in terms of promoting innovation are only likely to occur in competitive markets where service providers face incentives to take risks and develop new services, and where the success of these strategies depends on finding willing buyers for these services. It is unlikely that this innovation in service delivery would materialise in the absence of a competitive market.
- 6.3.5 In respect of Transpower's concerns relating to its ability to change the grid configuration or asset performance limits, the Commission is of the view that the

proposed approach does not prevent Transpower from investing shareholders' funds in new assets or improvements to assets, although Transpower has strong incentives to seek approval for new interconnection investment to provide certainty about the recovery of costs. The Commission also notes that the proposed asset availability approach does not prevent Transpower from offering additional capacity arising from investment in grid assets. The alternative of allowing Transpower to make all changes to assets that it considers reasonable would provide too much discretion.

Conclusion

- 6.3.6 The Commission considers that the cost benefit analysis and assessment of the proposal against the Commission's objectives in section 4.5 of the Interconnection Rules Consultation Paper is still appropriate and complete.
- 6.3.7 The Commission considers that the asset availability approach would maximise the net benefits and best meet the relevant objectives.

7. Service measures - Benchmark Agreement

7.1 Introduction

7.1.1 This section outlines the Commission's final proposal on the service measures for inclusion in the Benchmark Agreement.

7.1.2 There are three elements to the Commission's proposal:

- (a) categories of service measures;
- (b) enforceability of these categories of service measures; and
- (c) detailed service measures in each category.

7.1.3 The Commission's proposals under (a) and (b) are unchanged. However, in response to submissions, the Commission's proposals under (c) have been revised. These revised detailed service measures are discussed below. The Commission's analysis of its proposals under (a) and (b) remain unchanged from that set out in the Benchmark Agreement Consultation Paper.

7.1.4 A number of revisions to the service measures were indicated in the Summary and Response Paper. The Commission does not directly discuss these revisions to the proposal in the Benchmark Agreement Consultation Paper as these revisions have been replaced by further changes as a result of a proposal submitted by Transpower at the conference. The Commission also notes that it responded to a number of issues raised by submitters relating to service measures and levels in the Summary and Response Paper.

7.2 Categories of service measures

7.2.1 The Commission considers that the categories of service measures that it originally proposed are appropriate and capture the relevant elements of the asset availability service definition. These categories of service measures are:

- (a) capacity measures;
- (b) reliability measures;
- (c) availability measures; and
- (d) customer service and reporting (information) measures.

7.2.2 The Commission also considered the possible inclusion of market related service measures in the Benchmark Agreement Consultation Paper. The Commission continues to consider that market related service measures are not reasonably practicable at this time.

7.3 Enforceability of service measures

7.3.1 Of these categories of service measures, the Commission proposes that capacity measures would be enforceable. The Commission proposes that, where Transpower fails to meet a capacity service measure and breaches the Outage Protocol⁸, Transpower's sole liability will be under the Rules and it would not be liable for the breach under the default transmission agreement.

7.3.2 The Commission proposes that availability and reliability are unenforceable. The Commission continues to consider that it is not practicable to have enforceable availability and reliability measures.

7.3.3 The issue of enforcement of availability and reliability service performance measures is closely tied to the key issue of compensation and liability. The Commission considers that the reliability and availability measures cannot practically be enforced because of the very low probability of the failure of transmission assets and the difficulty in identifying whether a failure was within Transpower's control⁹.

7.3.4 While the Commission agrees that an effective way to make reliability and availability measures enforceable could be with some kind of no-fault compensation regime such as the USG, it does not consider that it is practicable to implement such an approach at this time. The Commission, therefore, intends to consider this option two years after the implementation of the Benchmark Agreement (1 April 2008).

7.3.5 The Commission continues to propose that the customer service and reporting service measures be enforceable under the Benchmark Agreement.

⁸ By, for example, failing to plan for an outage that was reasonably foreseeable, or by failing to meet the obligations in the Outage Protocol relating to unplanned outages.

⁹ See section 7.4.3 of the Benchmark Agreement Consultation Paper for further explanation of why the Commission considers that it is not practicable to have enforceable reliability and availability service measures.

7.4 Detailed service measures in each category

Statement of proposal

- 7.4.1 The Commission has revised the proposed service measures, and in particular the capacity service measures, to reflect a proposal submitted by Transpower.
- 7.4.2 The set of service measures proposed by the Commission is set out predominantly in schedule 5 of the draft Benchmark Agreement, with some additional reporting measures included in clause 37 of the draft Benchmark Agreement.
- 7.4.3 In relation to service measures based on output and, therefore, joint system operator and grid owner services, the Commission refers to the points made above in regard to service definition. The Commission considers that common quality issues are best addressed under existing part C provisions and that service measures for the grid owner should reflect the asset availability approach. The Commission, therefore, continues to consider that service measures that bundle system operator and grid owner roles are not reasonably practicable.

Capacity measures

- 7.4.4 The revisions to the service measures in large part are to reflect Transpower proposal that the Commission adopts capacity service measures that are consistent with its Asset Capability Information (**ACI**) system. The Commission has considered this proposal and has aligned its proposed capacity measures where possible.
- 7.4.5 The Commission revised proposal is not a significant change from the proposal set out in the Benchmark Agreement Consultation Paper, but rather represents a more efficient process for conveying meaningful information to counterparties. The revised proposal includes service measures that represent a sub-set of the original proposal. The Commission, as a result of consultation, now considers that the additional service measures in the original proposal (i.e. those not included in the revised proposal) provided little extra information to counterparties, but would be costly to provide.
- 7.4.6 The Commission's original proposal set out four classes of assets with corresponding capacity service measures (and suggested a fifth may be appropriate in the Summary and Response Paper). The revised proposal

reduces this to two classes of assets – transformer branches and circuit branches. These classes cover all assets and reflect a node-to-node methodology. The Commission proposes to add a requirement to section II of Part F of the Rules and to the proposed Interconnection Rules that Transpower ensures that each asset is included in a branch, so that a capacity service measure is specified for each asset.

- 7.4.7 In addition to the information contained in the high level report generated by the ACI system, the proposed capacity service measures will require Transpower to provide:
- (a) impedance of transformer and circuit branches (with a materiality threshold of 0.0001PU^{10} – using a 100MVA^{11} base);
 - (b) capacity information for feeders;
 - (c) tapping information on transformer branches; and
 - (d) 24-hour capacity ratings for transformers.
- 7.4.8 The Commission notes that increases in capacity, such as those dealing with load growth, would constitute a change in service level, and that this change would need to be reflected in the service measures.

Reliability and availability

- 7.4.9 The availability and reporting service measures are not materially changed from those consulted on in the Benchmark Agreement Consultation Paper.

Customer service and reporting measures

- 7.4.10 The proposals under part B of schedule 5 and clause 37 of the Benchmark Agreement are largely unchanged. However, changes made to the proposed customer service and reporting service measures are to:
- (a) specify timeframes for reporting on outages and interruptions, but allow Transpower and counterparties to agree on alternative timeframes, leaving the setting of these timeframe completely for Transpower and

¹⁰ PU means per unit and is a measure of impedance

¹¹ Megavolt-Amperes

counterparties (although subject to determination by the Rulings Panel if the parties cannot agree);

- (b) differentiate between outages and interruptions outages that are greater than one minute and those that are less than one minute;
- (c) include a requirement for Transpower to publish design maximum fault levels for each connection assets branch;
- (d) reflect the changes to the proposed capacity service measures; and
- (e) require Transpower to report on the number of momentary outages (those less than one minute) – this change has arisen from the Commission's change in the definitions of outages to only those greater than one minute.

7.4.11 The Commission has also slightly revised the structure of the Benchmark Agreement to improve the clarity of the reporting requirements on Transpower.

7.4.12 The Commission notes that an addition to the proposed Benchmark Agreement is a reporting measure that requires Transpower to provide peak demand information (by pricing region). The requirement specifically requires Transpower to provide Supervisory Control and Demand Acquisition (**SCADA**) information updated within five minutes. During the consultation process on this proposed reporting measure a number of parties raised concerns that the service measure:

- (a) would not be available over the first TPM measurement period;
- (b) would not be available to all parties (and specifically retailers); and
- (c) did not require the real time provision of information as it was currently drafted.

7.4.13 The Commission agrees that the above issues are relevant. To address the first two issues, Transpower has agreed to instate the regional peak demand signal as soon as possible, and to make it publicly available¹². In relation to the third issue, the Commission has amended the proposed service measure to ensure that it requires Transpower to provide information in real time (within five minutes), rather than ex-post.

¹² This information has been published as an additional submission to the Peak Demand Information Consultation Paper, and is available at:

<http://www.electricitycommission.govt.nz/submissions/subtransmission/peakdemand>

The Commission's objectives

- 7.4.14 The Commission's objectives are to ensure that the service measures under the Benchmark Agreement:
- (a) reflect a fair and reasonable balance of interests between Transpower and designated transmission customers;
 - (b) reflect the interests of end customers;
 - (c) reflect reasonable requirements of designated transmission customers;
 - (d) reflect differing needs of designated transmission customers; and
 - (e) provide efficient and effective processes for enforcement.
- 7.4.15 These objectives are drawn from the principles in the Rules (rules 4.2.1 – 4.2.4 and 4.2.7). The Commission considers that these objectives are the most relevant to the issue of determining the appropriate service measures.

Statement of reasons

- 7.4.16 A revised set of service measures can be found in schedule 5 of the Benchmark Agreement.
- 7.4.17 As stated above, the Commission's proposal relating to the categories of service measures and the enforceability of these categories are unchanged.
- 7.4.18 The Commission has developed, with the assistance of Transpower and the Transmission Advisory Group, a set of capacity service measures for connection assets that:
- (a) provides counterparties and interested parties with useful information; and
 - (b) reflects information included in Transpower's ACI system, and the outputs this system produces, as far as possible.
- 7.4.19 The Commission considers that the service measures proposed appropriately balance counterparties' needs with creating an efficient and administratively simple set of service measures/levels for Transpower to provide.

Reasonably practicable alternatives

- 7.4.20 The Commission is required by rule 4.3 to include service measures in the Benchmark Agreement. As such, the Commission does not consider that the inclusion of no service measures at all is a reasonably practicable alternative.
- 7.4.21 The Commission considers that the exclusion of an individual category or a set of categories of service measures is practicable. However, the Commission has already analysed these reasonably practicable alternatives against the proposal set out in the Benchmark Agreement Consultation Paper (the original proposal). It included that its original proposal was preferred.
- 7.4.22 Therefore, the Commission considers that the only reasonably practicable alternative that the Commission revised proposal (the revised proposal) needs to be assessed against in this paper is the original proposal.
- 7.4.23 As discussed above, the Commission does not consider that output-based service measures that bundle system operator and grid owner roles are practicable.

Assessment of the proposal

- 7.4.24 This section sets out the analysis of the original proposal (as set out in the Benchmark Agreement Consultation Paper) and the revised proposal described above and set out in schedule 5 and clause 37 of the draft Benchmark Agreement.

Cost benefit analysis

- 7.4.25 The Commission, in this section, assesses the revised proposal against the original proposal.
- 7.4.26 The Commission has considered whether it is possible to quantify the costs and benefits of different service measure options. The Commission considers that it is not feasible to accurately quantify the benefits and costs discussed below. The Commission has, therefore, considered the costs and benefits of its proposal and the alternatives in qualitative terms.

Administrative costs

- 7.4.27 The Commission considers that the revised proposal significantly reduces the administrative cost associated with meeting the service measures.
- 7.4.28 The revised proposal relies on the existing ACI system to the greatest extent possible and only adds to this where additional information will be of value to counterparties. Therefore, the revised proposal avoids the unnecessary costs of the original proposal that arise from the cost of developing and maintaining a new set of information.
- 7.4.29 The Commission notes that a number of new elements will need to be added to Transpower's ACI system, or added to the output from the ACI system in order to meet the revised capacity service measures. The new elements include, for example, capacity service measures relating to feeder assets. Both the revised and original proposals include these elements so there is no difference between these proposals. However, the Commission considers that the cost for Transpower to meet the additional service measures is outweighed by the benefits for counterparties.

Information for counterparties

- 7.4.30 The Commission considers that both the original and revised proposals provide information of value to counterparties, and require Transpower to provide an appropriate service. The benefits of service measures are that:
- (a) for capacity service measures, counterparties are able to seek compensation for non-performance by Transpower (as a breach of the Outage Protocol). This provides a strong incentive on Transpower to meet these service measures. Counterparties will also receive valuable information on capacities of branches that will allow them to effectively and efficiently plan their operations and investments;
 - (b) Transpower is required to provide information for availability and reliability, which is useful for counterparties and creates transparency in relation to Transpower's performance. This creates an incentive for Transpower to provide reliable transmission assets; and
 - (c) for the customer service and reporting measures, counterparties receive information that assists with the efficient operation of their networks and/or assets, and places reporting obligations on Transpower.

- 7.4.31 The Commission considers that the original and revised proposals have approximately equivalent service measures and, therefore, neither is favoured in this regard.
- 7.4.32 The Commission notes that the classes of assets with corresponding capacity service measures is reduced in the revised proposal. The Commission considers that this reduction improves the clarity of the information provided to counterparties.
- 7.4.33 The Commission also notes that counterparties should be more comfortable that the revised proposal results in accurate service measures as the service measures in the Benchmark Agreement are based on information collected in, and generated by, the same system that generates the grid owner's offer to the system operator.

Conclusion of cost benefit analysis

- 7.4.34 The Commission considers that the revised proposal and the original proposal provide approximately equivalent information to counterparties. However, the revised proposal is more efficient in providing this information.
- 7.4.35 Therefore, the Commission considers that the revised proposal provides a greater net benefit relative to the original proposal.

Assessment against the Commission's objectives

- 7.4.36 This assessment is in addition to that set out in Section 7.4.6 of the Benchmark Agreement Consultation Paper and only assesses the revised proposal against the original proposal.

Fair and reasonable interests between Transpower and counterparties

- 7.4.37 The Commission considers that the revised proposal best meets this objective. The original and revised proposals both provide information that is of value to counterparties. However, the revised proposal reduces the work Transpower needs to undertake to provide this information relative to the original proposal.

Interests of end customers

- 7.4.38 The Commission considers that it is in the interest of end use customers to minimise the cost of transporting electricity. The Commission considers that the

revised proposal is more efficient than the original proposal as it reduces administrative costs.

Reasonable requirements of counterparties

7.4.39 The Commission considers that the original and revised proposals are not distinguished by this objective, but both proposals reflect the technical and practical requirements of counterparties.

Reflect differing needs counterparties

7.4.40 The Commission considers that the original and revised proposals are not distinguished by this objective, but both proposals would provide information and enforceable service measures of value to differing classes of counterparties.

Provide efficient and effective processes for enforcement

7.4.41 The capacity measures in both the original and revised proposals provide an efficient and effective basis for enforcement of obligations and dispute resolution because they provide clearly measurable points of reference, against which performance can be assessed.

Conclusion

7.4.42 The Commission considers that the revised proposal is the best option as it is favoured both under the benefit costs analysis and when considered against the Commission's objectives. Accordingly, the Commission considers that it is also to be preferred over the alternative options set out in the Benchmark Agreement Consultation Paper.

8. Service measures - Interconnection Rules

8.1 Introduction

8.1.1 The service measures in the Interconnection Rules cover interconnection asset services, as discussed in Section 5. Interconnection asset services are addressed in the customer information and reporting service measures in the Benchmark Agreement.

8.1.2 There are three elements to the Commission's proposal:

- (a) categories of service measures;
- (b) enforceability of these categories of service measures; and
- (c) detailed service measures in each category.

8.1.3 The Commission's proposals under (a) and (b) are unchanged. However, in response to submissions, the Commission's proposals under (c) have been revised. These revised detailed service measures are discussed below. The Commission's analysis of its proposals under (a) and (b) remain unchanged from that set out in the Benchmark Agreement Consultation Paper.

8.1.4 A number of revisions to the service measures were indicated in the Summary and Response Paper. The Commission does not directly discuss these revisions to the proposal in the Interconnection Rules Consultation Paper as these revisions have been replaced by further changes as a result of a proposal submitted by Transpower at the conference. The Commission also notes that it responded to a number of issues raised by submitters relating to service measures and levels in the Summary and Response Paper.

8.2 Categories of service measures

8.2.1 The categories of service measures are unchanged. These categories are:

- (a) capacity measures;
- (b) availability measures; and
- (c) reliability measures.

8.2.2 As stated above, there is no need for customer service and reporting measures as interconnection information services are covered by the Benchmark Agreement service measures.

8.3 Enforceability of service measures

8.3.1 As with the equivalent Benchmark Agreement service measures, the Commission proposes that:

- (a) capacity service measures are enforceable using the Outage Protocol; and
- (b) availability and reliability service measures are unenforceable.

8.3.2 The Commission considers that it is not practicable to have enforceable availability and reliability service measures at the present time. However, the Commission will review whether these service measures can be enforced two years following the implementation of the Benchmark Agreement.

8.4 Detailed service measures in each category

8.4.1 The Commission notes that the detailed service measures for interconnection assets are from the same as those for connection assets in the Benchmark Agreement.

8.4.2 As with the service measures in the Benchmark Agreement, the Commission has revised the service measures in the Interconnection Rules to align with Transpower's current ACI system where possible. In addition to this, the proposal requires some information beyond that presently in the ACI.

8.4.3 In addition to the service measures derived from connection asset service measures, the Commission proposes service measures for the HVDC Link and shunt assets.

8.4.4 The proposed service measures for shunt assets will require Transpower to provide service measures and levels for details of those assets.

Statement of proposal

8.4.5 The Commission proposes that the categories and enforceability of service measures is as follows:

- (a) capacity measures – enforceable via the Outage Protocol;
- (b) reliability measures – unenforceable; and
- (c) availability measures – unenforceable.

8.4.6 The detailed service measures are set out in rule 2.4 (capacity) and rule 10 (reliability and availability) of the Interconnection Rules. The sections below briefly outline the material changes to the original proposals.

Capacity measures

8.4.7 The revisions to the service measures in large part are to reflect Transpower's proposal that the Commission adopt capacity service measures that are consistent with its ACI system. The Commission has largely agreed with this proposal and has aligned its proposed capacity measures where possible.

8.4.8 The proposed capacity measures for interconnection transformer and interconnection circuit branches (but not the HVDC Link or shunt assets) are the same as those explained in paragraphs to for connection transformer and connection circuit branches.

Reliability and availability

8.4.9 The availability and reporting service measures are not materially changed from those consulted on in the Interconnection Rules Consultation Paper.

8.4.10 Transpower will still be required to provide "index measures for availability and reliability" for interconnection branches, the HVDC Link and shunt assets. The Commission considers that, while the drafting of the Interconnection Rules has been changed to include the later two sets of assets, these assets were included in the original proposal by the term "interconnection circuit." The Commission, therefore, does not consider that availability or reliability measures have materially changed.

8.4.11 The Commission has also revised the proposed rules to clarify some service measures.

The Commission's objectives

8.4.12 The Commission considers that the following objectives, drawn from the principal objectives in section 172N(1) of the Act, are relevant:

- (a) efficient production and delivery of electricity;
- (b) fair production and delivery of electricity; and
- (c) reliable production and delivery of electricity.

- 8.4.13 These objectives are drawn from section 172N(1) of the Act. The Commission considers that these objectives overlap with, and are consistent with, the relevant GPS and Rules objectives.

Statement of reasons

- 8.4.14 The revised service measures are set out in rule 2.4 and rule 10 of the Interconnection Rules.
- 8.4.15 As stated above, the Commission's proposal relating to the categories of service measures and the enforceability of these categories are unchanged.
- 8.4.16 The Commission has developed, with the assistance of Transpower and the Transmission Advisory Group, a set of capacity service measures for interconnection assets that:
- (a) provides counterparties and interested parties with useful information; and
 - (b) reflects information included in Transpower's ACI system, and the outputs this system produces, as far as possible.
- 8.4.17 The Commission considers that the service measures proposed appropriately balance these considerations. The Commission considers that this is efficient and best meets its objectives.

Reasonably practicable alternatives

- 8.4.18 The Commission has already analysed a number of alternatives against its original proposal set out in the Interconnection Rules Consultation Paper (the original proposal).
- 8.4.19 Therefore, the Commission considers that the only reasonably practicable alternative that the revised proposal set out above (the revised proposal) needs to be assessed against in this paper is the original proposal.
- 8.4.20 As discussed above, the Commission does not consider that output-based service measures that bundle system operator and grid owner roles are practicable.

Assessment of the proposal

8.4.21 This section sets out the analysis of the original proposal (as set out in the Interconnection Rules Consultation Paper) against the revised proposal described above.

Cost benefit analysis

8.4.22 The Commission, in this section, assesses the revised proposal against the original proposal. The Commission notes that the assessment of the inclusion or exclusion of individual categories is set out in the Interconnection Rules Consultation Paper.

8.4.23 The Commission has considered whether it is possible to quantify the costs and benefits of different service measure options. The Commission considers that it is not feasible to accurately quantify the benefits and costs discussed below. The Commission has, therefore, considered the costs and benefits of its proposal and the alternatives in qualitative terms.

Administrative costs

8.4.24 For the same reasons as set out in the cost benefit analysis of the service measures for connection assets (Section 7), in respect of interconnection transformer branches and interconnection circuit branches, the Commission considers that the revised proposal significantly reduces the administrative cost associated with meeting the service measures. The revised proposal uses information currently collected and maintained by Transpower and, therefore, avoids the cost of developing and maintaining a new system.

8.4.25 While the revised proposal contains a number of new elements that will need to be added to the ACI system or to the output from the ACI system, the Commission notes that:

- (a) as discussed below, the benefits of these additions outweigh the costs; and
- (b) for the purposes of this assessment, both proposals would require this investment and are not differentiated in this regard.

8.4.26 The Commission considers that the cost of developing the proposed HVDC Link service measures will be minimal. This information is already known and can be easily published.

- 8.4.27 The proposed shunt asset service measures will impose some additional costs, in terms of their development and reporting.. However, the Commission considers that the requirements set out in proposed rule 2.4.4 will be currently known and easily produced. The information requirements in rule 2.4.5 (and particularly proposed rule 2.4.5.3) will require some development.

Information for interested parties

- 8.4.28 The Commission considers that both the original and revised proposals provide information of value to interested parties (e.g. designated transmission customers, retailers) and require Transpower to provide an appropriate service.
- 8.4.29 The Commission considers that the original and revised proposals are roughly equivalent in terms of the information provided to interested parties. However, the Commission considers that the revised proposal will allow interested parties to more readily understand and disseminate the service measures and levels as:
- (a) the service measures relating to the HVDC Link and shunt assets are more appropriate; and
 - (b) it simplifies the capacity service measures.
- 8.4.30 This means that the revised proposal is more efficient in terms of enforcement of service measures and the use of the information in counterparties' operation and investment decisions.

Conclusion of cost benefit analysis

- 8.4.31 The Commission considers that the revised proposal provides a greater net benefit relative to the original proposal as it provides more relevant and useful information to counterparties, and provides this information at a lower cost.

Assessment against the Commission's objectives

- 8.4.32 The Commission, in this section, assesses the revised proposal and the original proposal against the Commission's objectives.

Efficient production and delivery of electricity

- 8.4.33 Capacity measures will ensure the interests of all market participants are taken into account in any decision by the grid owner to amend the available capacity of assets or change their configuration. This assessment would result in more

efficient decision making than where Transpower considers only its own interests. Capacity measures also facilitate decisions for capacity expansions under the GIT. Service measures promote efficiency in the production and delivery of electricity by providing information about the expected standard of service.

- 8.4.34 The information that Transpower will provide on reliability and availability will assist planning and operational activity for market participants.
- 8.4.35 The Commission considers that the cost of the proposal is reduced relative to the original proposal.

Fair production and delivery of electricity

- 8.4.36 All service measure options should promote fairness between the rights of the grid owner and grid users.
- 8.4.37 Enforceable capacity measures will ensure the grid owner takes into account the interests of grid users when changing the availability, capacity, or configuration of grid assets.
- 8.4.38 All service measures provide information for grid users about the performance of interconnection services. It will enable all parties to assess proposals for grid enhancements; while this assessment is undertaken by the Commission under the GIT process, parties have an interest in these decisions.
- 8.4.39 The revised proposal fits within the grid owner's current systems and reduces the cost of providing the capacity measures. This favours the grid owner, but does not disadvantage grid users as the same level of information is provided.

Reliable production and delivery of electricity

- 8.4.40 The provision of service measures advances the objective of reliable production and delivery of electricity by allowing the monitoring of the performance of the grid owner.

Conclusion

- 8.4.41 The Commission considers that the revised proposal is the best option as it is favoured both under the benefit costs analysis and when considered against the Commission's objectives. Accordingly, the Commission also considers that the

revised proposal is preferred over the alternative options set out in the Interconnection Rules Consultation Paper

9. Service levels - availability and reliability for the Benchmark Agreement and Interconnection Rules

9.1.1 This section outlines the Commission's final proposal for a process to set service levels for availability and reliability service measures for connection assets and interconnection assets.

9.2 Statement of proposal

9.2.1 The Commission's proposal is that Transpower and the counterparty should determine service levels based on the last five years of data on reliability and availability at each point of connection.

9.2.2 Transpower would be required to develop service levels for interconnection services following the Interconnection Rules coming into force.

9.2.3 This proposal is unchanged from that set out in Section 7.5 of the Benchmark Agreement Consultation Paper and Section 6 of the Interconnection Rules Consultation Paper.

9.2.4 Also, If Transpower and counterparties are unable to agree on interim service levels, they would be able to refer the matter to the Rulings Panel. This proposal is unchanged from that set out in Section 7.5 of the Benchmark Agreement Consultation Paper.

9.2.5 The Commission proposes to investigate the alternative option of setting availability and reliability based on the expected performance of the assets following implementation of the Benchmark Agreement.

9.3 Submissions - Benchmark Agreement

9.3.1 A number of submitters supported the use of the last five years of data to set reliability and availability levels. Another submitter suggested that the data should be adjusted for outliers and averaged over similar assets or environmental conditions.

9.3.2 A number of submitters argued that the Commission should review the methodology for setting service levels at a later date, with another submitter being of the view that committing to a review is undesirable because it would

promote regulatory creep. Transpower also opposed the Commission reviewing the methodology at a future date.

- 9.3.3 A number of submitters opposed the proposed approach on the grounds that it would lock in past poor performance. A number of submitters argued that calculating service levels based on expected performance should be practicable, with some submitters commenting on the data available for this task.

9.4 Response - Benchmark Agreement

- 9.4.1 The Commission noted the broad support for the use of the last five years of data to determine connection and interconnection reliability and availability service levels.

- 9.4.2 The Commission remains of the view that it is not practicable to develop detailed service levels based on expected performance within the time available. These types of measures would involve the use of considerable amounts of data and modelling resources, and would take some time to establish an appropriate methodology. However, the Commission acknowledges that there may be some benefit in moving towards such a methodology in the longer term. For any change to occur, it would need to be shown that the benefits of a new methodology outweigh the costs of a change.

9.5 Submissions - Interconnection Rules

- 9.5.1 A number of submitters supported the proposed process of using the last five years of data to set service levels for interconnection assets.
- 9.5.2 One submitter did not agree with the proposed approach and recommended that reliability and availability service levels be set with reference to international data, historic data sets and the use of Transpower's modelling resources. Another submitter disagreed with the proposal and recommended that service levels should be driven by customer needs rather than Transpower's perception and records. Another submitter recommended that the Commission should require Transpower to work with connected parties to develop principles for the development of service levels.
- 9.5.3 During the drafting comments period, Transpower raised concerns that the proposed rules relating to consultation on the interconnection asset service levels will give the Board too much latitude to change Transpower's proposed service levels. Transpower was also concerned that having received submissions, the

Board could change the interconnection service levels without consulting Transpower further.

- 9.5.4 The Commission does not consider this will occur as it must always follow the regulatory framework under the Electricity Act and is bound under case law to consult Transpower and affected parties if it intended to make significant changes. The Commission considers that specific reference to Transpower in the rules relating to the consultation process is therefore unnecessary and inappropriate. Transpower's suggestions would also constrain the Board's capacity to make changes it considers reasonable and necessary (in light of both Transpower's and submitters views and Transpower's capacities and capabilities).
- 9.5.5 Similar comments were made by Transpower on other aspects of the Commission's proposals. The Commission does not consider that Transpower's suggested changes to those other aspects of the proposals are appropriate, for the same reason.

9.6 Response - Interconnection Rules

- 9.6.1 The Commission notes the broad support for the use of the last five years of data to determine interconnection reliability and availability service levels.
- 9.6.2 The Commission remains of the view that within the current timeframe for development and implementation of the Interconnection Rules, it is not practicable to develop service levels based on expected performance. However, the Commission remains convinced that there may be some benefit in moving to such a methodology in the longer term. For any change to occur, it would need to be shown that the benefits of a new methodology outweigh the costs of a change.
- 9.6.3 The Commission does not accept the suggestion that service levels should be based on a customer's desired service level. The services are not contestable and most are defined by the assets that currently exist. Accordingly, service levels should be based on the actual capacity of the assets. The best proxy, given the available timeframe, is the actual capacity level over the last five years.
- 9.6.4 However, in the long term, the Commission considers that the suggestion above may be beneficial and that this will be considered after the Benchmark Agreement and Interconnection Rules have been implemented.

9.7 Conclusion

- 9.7.1 The Commission considers that the cost benefit analysis and assessment of the proposals against the Commission's objectives in Sections 7.5 and 7.6 of the Benchmark Agreement Consultation Paper, and Section 6.5 of the Interconnection Rules Consultation Paper are still applicable.
- 9.7.2 The Commission continues to consider that the proposal is likely to result in greater net benefits than the reasonably practicable alternative and best meets the Commission's objectives.

10. Benchmark Agreement - transitional issues

10.1.1 This section follows on from the transitional issue discussed in Section 7.5 of the Summary and Response Paper. The Commission indicated in the Summary and Response Paper that the proposal to address the transitional issue did not require 172F analysis because the effect of the proposal is minor and will not adversely affect the interests of any person in a substantial way. The Commission continues to consider this is the case. However, the Commission has now undertaken an analysis for completeness. The Commission has not sought formal submission on this analysis but did publish the analysis with drafting comments. Interested parties were also able to comment on the proposal as set out in the Summary and Response Paper at the conference.

10.2 Background

10.2.1 At present, rule 3.1.3 provides that, from a date set by the Commission under rule 3.1.2.1, the Benchmark Agreement applies as the default agreement if Transpower and a counterparty have been unable to agree on a transmission agreement. This date must be at least two months after the Benchmark Agreement is added to the Rules.

10.2.2 The problem with this rule is that the Benchmark Agreement applies immediately from the date set by the Commission. However, the draft Benchmark Agreement proposed by the Commission contains various customer-specific terms (including service levels) that need to be determined before the Benchmark Agreement can be put in place as a contractual arrangement. The current Rules do not provide any process for this to occur.

10.2.3 The Commission initially proposed in the Benchmark Agreement Consultation Paper, in draft rules 3.1.3.2 to 3.1.3.6, a process for determining these customer-specific terms, starting from the date set by the Commission under rule 3.1.2.1. In addition, the Commission proposed that the date set under rule 3.1.2.1 must not only be at least two months after the making of the Benchmark Agreement, but also at least two months after the making of the Outage Protocol, Connection Code (**Code**) and interconnection service levels.

10.2.4 Specifically, under the proposed process set out in draft rules 3.1.3.2 to 3.1.3.6, if a transmission agreement is not agreed by the date determined by the Commission under rule 3.1.2.1:

- (a) the counterparty would have had to provide its name and contact details to Transpower within ten business days of that date; and
- (b) Transpower would then have had to provide the counterparty with a draft default transmission agreement completed in accordance with the Benchmark Agreement, which would include:
 - (i) the details provided by the counterparty;
 - (ii) Transpower's contact details;
 - (iii) Transpower's designated bank account for receiving payments under the default transmission agreement;
 - (iv) a draft schedule 1, which sets out the points of connection to the grid of the assets owned or operated by the counterparty;
 - (v) a draft schedule 4 setting out, in the same form as the diagram in Schedule 4 of the Benchmark Agreement, the configuration of the connection assets in relation to each point of connection listed in schedule 1;
 - (vi) a draft schedule 5 setting out the proposed service levels for each point of connection listed in schedule 1, determined in accordance with the process set out in the draft rule 3.1.3.3; and
 - (vii) if applicable, a draft schedule 6, including identification of the facilities, facilities area, and land that are to be subject to the access and occupation terms set out in that schedule and the licence charges under that schedule.

10.2.5 Once it has received the draft schedules listed above, the counterparty would then discuss the proposed schedules with Transpower, and Transpower may amend the schedules as a result of such a discussion. Within 20 business days of receiving the draft default transmission agreement from Transpower, the counterparty would inform Transpower whether or not it accepts the proposed schedules (or the schedules as amended by Transpower following discussions).

10.2.6 If the counterparty accepts the schedules, the default transmission agreement would then apply as a binding contract from the date on which Transpower receives notification of the counterparty's acceptance. If Transpower and the counterparty are unable to agree on the schedules, either party may refer the matter to the Rulings Panel for determination. If this occurs, the Benchmark

Agreement, as determined by the Rulings Panel, will apply as a binding contract from the date set by the Rulings Panel.

10.2.7 As indicated in the Summary and Response Paper, partly as a result of a submission from Transpower and the relationship between the Benchmark Agreement and the TPM, the Commission has reviewed these proposed rules.

10.3 Relationship between Benchmark Agreement and the TPM

10.3.1 The intention of the originally proposed rules 3.1.3.2 to 3.1.3.6 was to allow parties at least two months time after the making of the Outage Protocol, Connection Code and interconnection service levels to negotiate a transmission agreement (and the detailed service levels as part of that agreement), before the Benchmark Agreement starts to apply as the default transmission agreement. However, this would have resulted in Transpower and counterparties developing the service levels and other customer-specific terms for the Benchmark Agreement in the period after 1 April 2008, meaning that the Benchmark Agreement could not begin to apply as a binding agreement between Transpower and each designated transmission customer until some time after 1 April 2008.

10.3.2 This would have created problems for the application of the new TPM. The Commission's intention is that Transpower would be able to charge customers on the basis of the new TPM from 1 April 2008.

10.3.3 At present, Transpower's charges are calculated in accordance with the pricing methodology referred to in the Electricity (Transpower's Pricing Methodology) Regulations 2004, except to the extent Transpower has agreed otherwise with a customer. In practice, this means that Transpower will be able to charge under the new TPM only where there is a binding agreement between Transpower and the counterparty to do so.

10.3.4 The practical application of the new TPM is, therefore, dependent on there being a transmission agreement in place between Transpower and a designated transmission customer.

10.3.5 For many counterparties, this is likely to be the case only when the Benchmark Agreement starts to apply as a default agreement. As a result, the new TPM will not apply for most designated transmission customers until after 1 April 2008,

and is likely to apply at different dates for different designated transmission customers.

10.4 The Commission's final proposal

- 10.4.1 The Commission proposes in rules 3.1.3.2 to 3.1.3.6 that the process of determining the service levels and other customer-specific terms for the Benchmark Agreement follows immediately after the TPM is added to part F (expected to be July 2007). If the service levels and other customer-specific terms are determined by 1 April 2008, they would take effect from that date. If the service levels and other customer-specific terms are not determined by 1 April 2008 (for example, if a dispute over those terms were to arise), then Transpower's proposed service levels and any other terms (apart from the customer's details, which the customer would specify) would apply from 1 April 2008 until the service levels and other terms are determined. This would have the effect of ensuring there is a binding agreement which allows the new TPM to be enforced.
- 10.4.2 This process will not apply where there is an existing agreement between Transpower and a designated transmission customer that falls within the scope of rule 8.
- 10.4.3 The Commission notes that this proposal has been slightly amended to link to when the TPM is added to the Rules, rather than the Benchmark Agreement. Both the Benchmark Agreement and the TPM need to be in place when the process for setting service levels and other customer specific measures begins. The Commission expects that the TPM will be the latter of the requirements to be in place and, therefore, considers that it is appropriate that the process for setting service levels and other customer specific measures begins when the TPM is included in the Rules.
- 10.4.4 The Commission also notes that, in relation to the negotiation of transmission agreements, a suggestion was made in the drafting comments that Transpower and counterparties should be required to negotiate transmission agreements 'in good faith'. It was suggested that the Rulings Panel could enforce this.
- 10.4.5 The Commission considers that this is potentially a major change in policy and would require consultation. Moreover, the Commission considers that both Transpower and counterparties have incentives to negotiate in good faith and that determining if a party was not acting in good faith would be very difficult.

10.5 The Commission's objectives

10.5.1 The Commission's objectives for its proposed process for setting service levels under the Benchmark Agreement and the transition to the Benchmark Agreement regime are to:

- (a) reflect a fair and reasonable balance of interests between Transpower and designated transmission customers; and
- (b) reflect the interests of end customers.

10.5.2 These principles are drawn from rule 4.2. The Commission considers that they are most relevant to the proposed process for setting service levels under the Benchmark Agreement and the transition to the Benchmark Agreement regime.

10.6 Statement of reasons

10.6.1 In order to achieve an implementation date of 1 April 2008, the Commission must allow counterparties and Transpower sufficient time to negotiate service levels. The Commission proposes that the process for determining service measures would commence immediately following the inclusion of the TPM in the Rules.

10.6.2 The Commission considers that this proposal allows counterparties and Transpower sufficient time to negotiate service levels, given the 1 April 2008 implementation date.

10.7 Reasonably practicable alternatives

10.7.1 The Commission considers that there are no reasonably practicable alternatives. This is because failing to negotiate service levels prior to 1 April 2008 will create significant complexities in the implementation of the TPM. The Commission considers that this is not efficient and any option that creates this situation is not practicable.

10.8 Assessment of the proposal

Cost benefit analysis

10.8.1 As the Commission considers there are no reasonably practicable alternatives, there is no counterfactual to assess the proposal against.

- 10.8.2 However, the discussion below sets out the benefits and cost that the Commission considers will arise from proposal.
- 10.8.3 The Commission considers that benefits will flow from the new TPM and Benchmark Agreement coming into force simultaneously on 1 April 2008.
- 10.8.4 The benefits for an implementation date of 1 April 2008 are that:
- (a) the majority of submitters support that implementation date;
 - (b) the date would coincide with the pricing period of most counterparties, minimising in particular the need for distributors to make more than one price change;
 - (c) it would align the TPM with the Commerce Commission's disclosure and threshold regime established under the Commerce Act 1986;
 - (d) it would ensure a smooth and timely transition of service levels under the Benchmark Agreement that would allow the new TPM to apply from 1 April 2008; and
 - (e) it would avoid creating additional complexity in the implementation of the TPM.
- 10.8.5 The Commission considers that the proposal does not give rise to any costs that would not be incurred under any other option.

Assessment against the Commission's objectives

Fair and reasonable balance of interests

- 10.8.6 The Commission considers that the proposal balances the interests of Transpower and counterparties as it:
- (a) allows counterparties sufficient time to negotiate service levels; and
 - (b) reduces the complexity of implementing the TPM.

Reflects the interests of end customers

- 10.8.7 The Commission's proposal furthers this objective as it is efficient.

Conclusion of the assessment of the proposal

10.8.8 The Commission considers that, for the reasons above, the proposal is efficient and meets the Commission's objectives.

10.9 Conclusion

10.9.1 The Commission considers that its proposal is appropriate as it will ensure that there is a binding agreement which allows the new TPM to be enforced from 1 April 2008.

11. Benchmark Agreement - compensation and liability

11.1.1 This chapter discusses the Commission's proposals for compensation and liability for breaches of the benchmark agreement.

11.1.2 The Commission's proposal is largely unchanged from that set out in the Draft Benchmark Agreement Consultation Paper. To avoid duplication, the analysis in this section adds to that set out in the consultation paper. That is, the analysis of the compensation and liability proposal for the Benchmark Agreement against section 172F of the Act is set out in:

- (a) section 8.1 of the Draft Benchmark Agreement Consultation Paper - for the original proposal (which includes the direct cost approach and capping of liabilities); and
- (b) this section - for changes to the Commission's proposal (as a result of consultation).

11.2 Submissions

11.2.1 The Commission received two submissions that Transpower should indemnify counterparties against any losses under the Consumer Guarantees Act 1993 (**CGA**).

11.2.2 The Commission also received the following submissions relating to the situation where a party is liable for breaches of both the Benchmark Agreement and the Interconnection rules (double jeopardy):

- (a) Orion suggests that because the benchmark agreement is a schedule to the Rules, there is a danger of double jeopardy due to a party being held responsible for a breach of the Rules (as the benchmark agreement will be a schedule to part F) and the benchmark agreement (if it applies as a default contract) at the same time.
- (b) Transpower's submitted that liability under the interconnection rules is "in addition" to liability under the benchmark agreement, if this is intended to imply that liability could arise for the same matter under both the benchmark agreement and the interconnection rules.

11.3 The Commission's response

- 11.3.1 The Commission provided further explanation on some parts of its proposal in its Summary and Response Paper, and proposed an amendment relating to liability under the CGA. The following is a brief summary of the major points, but interested parties should refer to the Commission's provisional response in section 7.9 of the Summary and Response Paper. The change relating to the CGA is discussed in the next section.
- 11.3.2 The Commission considers that a number of parties misunderstood its proposal in relation to the situations where liability falls under the Benchmark Agreement and Interconnection Rules. In particular, the Commission considers that concerns relating to potential double jeopardy due to a party being held responsible for a breach of the rules and the benchmark agreement at the same time are misconceived.
- 11.3.3 The Benchmark Agreement will be a schedule to the Rules and, after a certain date will become a default contract between Transpower and a designated transmission customer where the parties have not signed their own transmission agreement. Both parties would only be liable for a breach of this contract, not the Benchmark Agreement set out in the schedules to the Rules.
- 11.3.4 The Commission also does not consider that it is possible for any liability in relation to a connection asset to arise for the same matter under the interconnection rules in addition to liability under the Benchmark Agreement, because of the respective definitions of "connection assets" and "interconnection asset".
- 11.3.5 As well as providing additional explanation on some issues, in section 7.9 of the Summary and Response Paper the Commission proposed an addition to its proposal relating to liability under the CGA. This addition is described below.

11.4 Addition to the Commission's original proposal

Statement of changes to the proposal

- 11.4.1 As a result of submission's received on draft proposal, the Commission considers that it is appropriate to require Transpower to indemnify counterparties for losses that arise under the CGA to the extent caused by a breach of the Benchmark Agreement by Transpower.

The Commission's objectives

- 11.4.2 The Commission's relevant objectives in making this proposal are to ensure that liability under the Benchmark Agreement:
- (a) reflects a fair and reasonable balance of interests between Transpower and designated transmission customers; and
 - (b) reflects the interests of end customers.
- 11.4.3 The objectives above are drawn from the principles for Benchmark Agreements, set out in rule 4.2. While rule 4.2 also includes other principles, the Commission does not consider that these are as relevant to determining how compensation and liability should be addressed.

Statement of reasons

- 11.4.4 The Commission considers that the inclusion of the requirement that Transpower indemnify counterparties against liabilities arising out of the CGA is efficient (as explained below) and appropriate. An efficient compensation and liability arrangement should allocate risk to the party best able to manage the risk. This means that Transpower should take responsibility for its breaches of the contract
- 11.4.5 It follows that, if a counterparty incurs losses as a result of breaching the CGA and this is due to a breach of contract by Transpower, it is efficient for Transpower to carry this risk.
- 11.4.6 The Commission notes that:
- (a) the probability of a counterparty incurring liability under the CGA as a result of a breach of the Benchmark Agreement by Transpower is very small. Section 33 of the CGA would seem to protect distributors; and
 - (b) similar provision is included in the "Model Arrangements For Electricity Distribution Services".

Reasonably practicable alternatives

- 11.4.7 The Commission considers that the only reasonably practicable alternative to the proposal is to not require Transpower to indemnify counterparties against losses due to liability under the CGA caused by breach of the Benchmark Agreement by Transpower.

Assessment of proposal

Cost benefit analysis

Efficient allocation of risk

- 11.4.8 The Commission considers that the proposal efficiently allocates risk with Transpower because, for the liabilities against which the proposal requires Transpower to indemnify counterparties, it is the party best able to mitigate the risks. That is, Transpower has an additional incentive to comply with the Benchmark Agreement.
- 11.4.9 The alternative removes this risk from Transpower and results in counterparties bearing this risk. Counterparties are unable to influence the likelihood of Transpower's compliance with the Benchmark Agreement and, therefore, cannot mitigate the risk of liability under the CGA as a result of such breach.

Conclusion on cost benefit analysis

- 11.4.10 The Commission considers that the probability of this indemnity being required is very low. Therefore, the cost that the proposal may create any potential liability is similarly very small.
- 11.4.11 The Commission considers that the additional incentive on Transpower to comply with the Benchmark Agreement will outweigh the cost above.

Assessment against the Commission's objectives

Fair and reasonable balance of interests

- 11.4.12 The Commission considers a fair and reasonable balance of interests to mean the balancing of interests that would result from two parties with equal bargaining power negotiating a contract.
- 11.4.13 The Commission considers that the proposal reflects the balance of interests that would occur under a bilateral negotiation between two equal parties. This is because Transpower, rather than a counterparty, is best able to manage the performance of its obligations under the Benchmark Agreement.

Interests of end users

- 11.4.14 End users will have an interest in the option that results in efficient transmission contracting. The Commission's proposal provides Transpower with an additional incentive to comply with the Benchmark Agreement.

Conclusion

- 11.4.15 On the basis of this analysis, the Commission considers the requirement that Transpower indemnify counterparties against losses that may occur due to breaches of the CGA to the extent caused by a breach of the benchmark agreement by Transpower is likely to result in greater net benefits than the reasonably practicable alternatives and best meets the Commission's objectives.

12. Benchmark Agreement - other contractual terms

12.1 Introduction

12.1.1 This chapter considers a number of contractual terms under the draft Benchmark Agreement relating to:

- (a) contract term;
- (b) termination;
- (c) credit support requirements;
- (d) disputed invoices;
- (e) dispute resolution;
- (f) the Connection Code; and
- (g) access and occupation issues.

12.2 Contract term

12.2.1 As outlined in the Benchmark Agreement Consultation Paper, the Commission considers that it is not appropriate or necessary to set a limit on the term of the Benchmark Agreement. The Benchmark Agreement applies as a default agreement, unless Transpower and a designated transmission customer agree on a transmission agreement. Placing a limit on its term is not consistent with its function as a default agreement.

12.2.2 The two submitters who commented on the issue supported the Commission's proposal. The Commission's final proposal is, therefore, unchanged.

12.2.3 The Commission has not carried out a section 172F analysis of this issue, as it is a matter already effectively provided for by the Rules.

12.3 Notice of termination

Statement of Proposal

12.3.1 The Commission's final proposal is unchanged from that set out in section 9.2 of the Benchmark Agreement Consultation Paper.

- 12.3.2 The Commission's proposal is that counterparties be required to give six months' notification of termination. The proposed notice of termination provisions are the same as those in Transpower's current connections contract.
- 12.3.3 The Commission also proposes that, under the draft Benchmark Agreement, Transpower's termination rights be limited to situations of non-payment, technical default or insolvency.

Submissions

- 12.3.4 A majority of submitters agreed with the Commission's proposal.
- 12.3.5 Transpower submitted that it did not accept the Commission's proposal to limit counterparties to giving only six months' notice of termination and considered that the minimum notice period should be 12 months to allow Transpower to recover the revenue allocated to the particular counterparty. Transpower also disagreed with the proposal to limit its right of termination to situations of non-payment, technical default or insolvency.

The Commission's response

- 12.3.6 The Commission noted the concern of some submitters about disconnection in relation to non-payment of invoices. However, the Commission considers this to be normal commercial practice.
- 12.3.7 In respect of the concerns expressed about the potential for immediate disconnection for technical non-compliance, the Commission notes that clause 15.2(a) restricts this right to situations where non-compliance has defined material adverse effects. The Commission is of the view that it is appropriate for Transpower to have this right to protect the effective operation of the grid and the rights of third parties.
- 12.3.8 In respect of Transpower's submissions relating to the proposed notice period and reasons for termination, the Commission is of the view that extending the notice period beyond six months will inefficiently constrain business decisions of counterparties.

Conclusion

- 12.3.9 The Commission considers that the cost benefit analysis and assessment of the proposal against the Commission's objectives in section 9.2 of the Benchmark Agreement Consultation Paper is still applicable.
- 12.3.10 The Commission continues to consider that the proposal shows the highest net benefit of the options considered and best achieves the Commission's objectives.

12.4 Credit support

- 12.4.1 This section considers the need for, and the extent of, any credit support that may be required for connection services.
- 12.4.2 To avoid duplication, the analysis in this section adds to that set out in the consultation paper. That is, the analysis of the credit support proposal for the Benchmark Agreement against section 172F of the Act is set out in:
- (a) Section 9.3 of the Benchmark Agreement Consultation Paper – for assessment of the original proposal; and
 - (b) this section – for additional analysis related to an additional option raised by Transpower during the consultation process.

Statement of proposal

- 12.4.3 The Commission's proposal is unchanged from that set out in section 9.3.1 the Benchmark Agreement Consultation Paper.
- 12.4.4 That is, customers that meet the following criteria would be extended credit without being required to provide credit support:
- (a) customers with a long-term credit rating equivalent to at least BB on the Standard and Poor's scale; or
 - (b) customers that do not have a long-term rating but acquire an adequate credit rating assigned by Transpower in accordance with the Benchmark Agreement.
- 12.4.5 Other customers may be required to provide two months' credit support in one of the forms set out in the draft Benchmark Agreement.

Submissions

- 12.4.6 Eight submitters supported the proposal while four submitters opposed the proposal. Key points raised in the submissions were:
- (a) a prudent level of credit support for Transpower would be a credit rating of A- or equivalent, or if the party is unrated, either a letter of credit or other support arrangement should be required;
 - (b) the minimum credit rating required should be the same as that required under the Model Use-of-System Agreement (BBB or equivalent); and
 - (c) Transpower, as a compromise, proposed the adoption of a BBB rating rather than its preferred position of an A- rating, or the Commission's proposed threshold of a BB rating. Transpower submitted that any lower rating would negatively impact on its own credit rating, with consequent increases in Transpower's cost of capital.
- 12.4.7 The Commission also received a report prepared by Price Waterhouse Coopers (**PwC**) as part of Orion's submission and presentation at the conference.

The Commission's response

- 12.4.8 In response to the submissions received in submissions and cross-submissions on the Benchmark Agreement Consultation Paper, the Commission obtained advice from Ernst & Young on the appropriate approach to credit support. This report was attached to the Summary and Response Paper and favoured the proposed BB credit rating¹³.
- 12.4.9 The Commission has also sought further advice from EY on the points raised in Orion's submission at the conference. A copy of this report is attached as Appendix A to this paper. This advice continues to support the Commission's proposal.
- 12.4.10 Based on this advice, the Commission continues to be of the view that the proposed threshold of a BB rating (or equivalent) strikes an appropriate balance between appropriately managing Transpower's credit risk and the desire not to

¹³ This report is available at: <http://www.electricitycommission.govt.nz/pdfs/opdev/transmis/BA/Sub-summary-draft-BA-14Dec06.pdf>

impose unwarranted additional costs on counterparties. Consequently, the Commission's proposal remains unchanged.

Additional analysis

12.4.11 The Commission's objectives and reasons are the same as outlined in sections 9.3.2 and 9.3.3 of the Benchmark Agreement Consultation Paper.

Change in reasonably practicable alternatives

12.4.12 In light of the compromise suggested by Transpower during the consultation process, the Commission now considers that there are two reasonably practicable alternatives. They are to:

- (a) adopt Transpower's suggested compromise of adopting a minimum credit rating of BBB or equivalent, with other provisions remaining as set out in its current connection contract; and
- (b) impose no credit support requirements on Transpower (i.e., no parties are required to provide prudential security).

Analysis of the proposal

Cost benefit analysis

12.4.13 The Commission considers that the analysis of the alternative of using a BBB credit rating is similar to that of the A- alternative.

12.4.14 The Commission acknowledges that the magnitude of the benefits and costs discussed in the Benchmark Agreement Consultation Paper are reduced. However, the Commission does not consider that these reductions in magnitude alter the conclusions reached in the cost benefit analysis.

Assessment against the Commission's objectives

12.4.15 The Commission considers that its assessment of the proposal and A- alternative is unchanged. Assessment of the BBB alternative will always fall between the proposal and A- alternative, but the Commission does not consider that the BBB alternative will supersede the proposal as the preferred option. That is, the proposal, relative to the BBB alternative:

- (a) provides a better balance of interests as the proposal would protect Transpower against customers with poor creditworthiness, while at the same allowing customers with a low risk of default to access credit;
- (b) minimises costs passed through to end customers, but adequately protects Transpower;
- (c) *addresses the differing needs of counterparties* by minimising the barriers to entry, while adequately protecting Transpower; and
- (d) is neutral in terms of the efficient and effective enforcement of the Benchmark Agreement as both the proposal and BBB alternative provide protection for Transpower and avoid excessive recourse to payment enforcement.

Conclusion

- 12.4.16 The Commission considers that the cost benefit analysis and assessment of the proposal against the Commission's objectives in section 9.3 of the Benchmark Agreement Consultation Paper is still applicable.
- 12.4.17 Taking into account both sets of assessment, the Commission considers that the proposal is likely to better meet the Commission's objectives and result in greater net benefits than the reasonably practicable alternatives, by balancing the cost to counterparties of providing credit support against the benefits that would accrue to Transpower.

12.5 Disputed invoices

- 12.5.1 This section outlines the Commission's final proposal for the arrangements applying to the payment of invoices where the charges are disputed between the grid owner and the counterparty.

Statement of proposal

- 12.5.2 The Commission's proposal is unchanged from that set out in section 9.4 of the Benchmark Agreement Consultation Paper. The Commission is proposing a 'pay now, dispute later' approach for disputed invoices. This is the same approach as currently followed in Transpower's connection contract.

Submissions

- 12.5.3 Submitters had mixed views on the Commission's original proposal. Key points raised in submissions included that:
- (a) the proposed approach does not provide an incentive for Transpower to rapidly resolve disputes. There was a suggestion that the proposal be amended to require counterparties to pay no more than 75% or 50% of the disputed amount to provide an incentive for both parties to resolve disputes;
 - (b) the normal commercial practice is to only pay an invoice once the customer is satisfied with the service delivered, and the charges made for that service;
 - (c) the time provided to check invoices may be insufficient. One submitter stated that the proposal means that customers could have as little as 31 hours to raise manifest invoicing errors with Transpower; and
 - (d) some submitters argued that only the undisputed portion of an invoice should be paid pending resolution of the disputed amount. This is the normal commercial arrangement.
- 12.5.4 Counties Power also raised this point during the conference.

The Commission's response

- 12.5.5 The Commission is of the view that concerns surrounding Transpower's incentives to ensure prompt dispute resolution are addressed by the default interest rate (Bank Bill Rate plus 5% per annum). The default rate is expected to be greater than Transpower's cost of capital, providing a strong incentive to bill correctly, and to resolve any disputes promptly.
- 12.5.6 Customers do not have any right to raise issues (except for manifest invoicing errors) with Transpower before paying invoices. Therefore, the proposed timeframe for raising manifest errors is fair, even if Transpower issues a late invoice and the five business days' timeframe for paying the invoice applies.

Conclusion

12.5.7 The Commission considers that the cost benefit analysis and assessment of the proposal against the Commission's objectives in section 9.4 of the Benchmark Agreement Consultation Paper is still applicable.

12.5.8 The Commission continues to consider that the proposal is the best option, as it is preferred under the efficiency criterion and is inferior under no other criteria.

12.6 Dispute resolution

12.6.1 This section considers dispute resolution options for disputes that arise under the Benchmark Agreement (once it is in force).

12.6.2 The Commission's final proposal has changed from that originally set out in the Benchmark Agreement Consultation Paper to adopt one of the alternatives identified under that paper. The analysis in this section replaces that set out in the consultation paper.

The Commission's original proposal

12.6.3 In the Benchmark Agreement Consultation Paper, the Commission proposed that all disputes in relation to the technical provisions of the Benchmark Agreement and transmission agreements be referred to the Rulings Panel. It also proposed that all commercial disputes be resolved by the standard range of contractual remedies (for example, arbitration or mediation), as provided for in the Benchmark Agreement. However, where a dispute involved both commercial and technical terms, the Commission proposed that the Rulings Panel would consider the dispute.

12.6.4 In the consultation paper, the Commission also considered two reasonably practicable alternatives, namely using the standard contractual dispute resolution procedure for all disputes, or having the Rulings Panel deal with all disputes.

Submissions

12.6.5 There were 14 submissions on the consultation paper, of which five agreed with the Commission's original proposal and the remainder opposed the proposal. Key concerns and views raised in submissions were as follows.

- (a) A number of submitters did not consider that the boundary between technical and commercial disputes is clear. For example, a commercial dispute may have an underlying technical basis.
- (b) Other submitters commented on the risk that separation of the adjudication process could lead to confusion, disputes over the appropriate forum and, potentially, to 'forum shopping' by disputants.
- (c) Some submitters disagreed with the proposal on the grounds that the Benchmark Agreement is meant to be a commercial contract and, consequently the Rulings Panel should not be dealing with disputes under the Benchmark Agreement but, rather, disputes should be addressed using normal commercial avenues.
- (d) Some had doubts as to the ability of the Rulings Panel to cope with the increased workload. Others questioned whether the Rulings Panel had the required expertise to deal with disputes. However, others argued that the Rulings Panel would develop considerable technical expertise over time. In addition, the Rulings Panel would be able to hire outside expertise as and when required.
- (e) Another submitter argued that the proposed approach would be inefficient and unnecessarily complex. Similarly, another submitter described the proposal as unduly prescriptive and imposing unnecessary compliance costs.

12.6.6 In its invitation for cross-submissions, the Commission sought views on whether parties would favour either of the two following alternatives to its original proposal:

- (a) the status quo as per the existing Rules - the Rulings Panel would have no jurisdiction over the interpretation or enforcement of the Benchmark Agreement; or
- (b) the Rulings Panel being available as the vehicle for the final resolution of all disputes (both technical and commercial issues) - other dispute resolution options under the Benchmark Agreement would continue to be available.

12.6.7 Cross submissions received generally favoured option (a) above. Submitters favoured this approach as this option created a consistent approach to technical and non-technical disputes, and would be able to provide the necessary technical skills.

The Commission's final proposal

- 12.6.8 The Commission has decided to change its proposal following consideration of the cross-submissions. It now prefers option (a) (set out in paragraph 12.6.6 above), which is that the Rulings Panel would have no jurisdiction over the interpretation and enforcement of the Benchmark Agreement. Standard commercial dispute resolution processes would apply in respect to disputes about the performance of the Benchmark Agreement. This approach was originally identified in the Benchmark Agreement Consultation Paper as a reasonably practicable alternative to having technical disputes considered by the Rulings Panel.
- 12.6.9 Key reasons why the Commission favours this approach over the proposal outlined in the Benchmark Agreement Consultation Paper include the following:
- (a) the final proposal is consistent with the current Rules, in particular rule 4.3.1.4, which requires the Benchmark Agreement to contain mediation and arbitration processes for resolving disputes, and rule 6.3.2, which prohibits the Rulings Panel from determining disputes relating to the interpretation and enforcement of any transmission agreement;
 - (b) taking into account the views expressed by submitters, the Commission does not consider that the benefits ascribed to the initial proposal would eventuate, or at least would not do so to the extent initially expected;
 - (c) involving the Rulings Panel in disputes under the Benchmark Agreement is at odds with the objective of establishing a Benchmark Agreement which reflects outcomes that would occur in a workably competitive environment; and
 - (d) it avoids difficulties with distinguishing between commercial and technical disputes.

The Commission's objectives

- 12.6.10 The Commission's objectives, in relation to this proposal, are to develop a dispute resolution system that:
- (a) reflects the interests of end use customers;
 - (b) establishes common standards for common configuration; and

- (c) encourages efficient and effective processes for enforcement of obligations and dispute resolution.

12.6.11 The objectives above are drawn from the principles for Benchmark Agreements set out in rule 4.2. While rule 4.2 also includes other principles, the Commission does not consider that these are as relevant to determining how disputes should be resolved.

Statement of reasons

12.6.12 The Commission considers that the proposal encourages:

- (a) consistent dispute resolution by ensuring that all aspects of the Benchmark Agreement are enforced using normal commercial mechanisms; and
- (b) efficient dispute resolution by ensuring counterparties and Transpower have the flexibility to resolve disputes through appropriate mechanisms, which may include mediation or use of an expert.

Reasonably practicable alternatives

12.6.13 The Commission considers there are two reasonably practicable alternatives to its proposal:

- (a) disputes under technical provisions being referred to the Rulings Panel for resolution, and commercial disputes being resolved by the standard range of contractual remedies (such as arbitration, mediation, etc) as originally proposed; and
- (b) the Rulings Panel dealing with all disputes, both technical and commercial.

Assessment of proposal and alternatives

12.6.14 The standard contractual dispute resolution procedures that would apply to all disputes under the proposal have the advantage of allowing maximum flexibility for the parties to determine how each dispute is to be settled. It would not preclude parties agreeing to appoint an expert to hear technical disputes.

12.6.15 The proposal is also consistent with the status quo in the Rules. In particular, rule 4.3.1.4 requires the Benchmark Agreement to contain mediation and arbitration processes for resolving disputes, and rule 6.3.2 prohibits the Rulings Panel from

determining disputes relating to the interpretation or enforcement of any transmission agreement including the Benchmark Agreement.

- 12.6.16 Mediation and arbitration are standard dispute resolution mechanisms included in commercial contracts and there appears to be no clear advantage in pursuing other options. It also reflects what parties in a workably competitive environment would agree in their contract, and avoids difficulties distinguishing between commercial and technical disputes.
- 12.6.17 On the other hand, the proposal may result in less consistency between decisions on technical matters arising under different connection contracts. Such inconsistency may lead to inefficient investment decisions if parties lack confidence in a consistent regulatory framework.
- 12.6.18 It would also be likely to involve higher search costs (i.e., the costs of finding suitably qualified experts) for determining a suitable panel of experts for resolution of technical disputes, as the parties may need to repeat this exercise each time a technical dispute arises.

Cost benefit analysis

- 12.6.19 The Commission has considered whether it is possible to quantify the costs and benefits of different dispute resolution options. The Commission considers that it is not feasible to accurately quantify these benefits and costs, as the Commission does not have sufficient information on the likely number of disputes arising, the nature of those disputes or the likely costs of resolving those disputes by different means. The Commission has, therefore, considered the costs and benefits of its proposal and the alternatives in qualitative terms.

Benefits - flexibility

- 12.6.20 Allowing disputes to be resolved by standard contractual processes will provide flexibility by allowing parties to choose a dispute resolution mechanism they consider appropriate in the circumstances. This may result in the costs of resolving disputes being reduced, as compared to the alternative options, because disputing parties will have the ability to ensure that the cost of the dispute resolution process is justified by the nature of the dispute.

Benefits - consistency with standard commercial practice

- 12.6.21 Decisions made under the proposed approach are more likely to be consistent with current commercial practice for commercial disputes. Dispute resolution mechanisms used by parties under this approach, such as arbitration and mediation, are also more likely to be consistent with dispute resolution used in other areas of the parties' businesses. Similarly, disputes about the commercial terms of the Benchmark Agreement are likely to have much in common with other commercial contractual disputes.
- 12.6.22 The proposal will also limit the potential for confusion and overlapping jurisdictions that could occur where commercial and technical disputes are resolved through separate mechanisms.

Costs - expert dispute resolution

- 12.6.23 The proposal may result in a number of different experts considering disputes. This has the potential to increase costs compared to the option where one body (the Rulings Panel) considers all disputes. However, the Commission does not consider it likely that this difference would, in practice, be major.
- 12.6.24 The Commission expects that the disputing parties would have clear incentives, and the ability to manage the costs of the dispute resolution process under the proposal. Over time, this would be expected to reduce the overall cost of resolving disputes related to the Benchmark Agreement.
- 12.6.25 Both alternatives may, by virtue of having all technical disputes considered by the Rulings Panel, result in more consistent decisions across transmission arrangements for technical disputes. They would also be more likely to result in decisions that are consistent across counterparties for similar disputes. Publication of decisions by the Rulings Panel would provide guidance to other participants seeking to resolve disputes.
- 12.6.26 The proposal may suffer from problems arising from asymmetric information between Transpower and counterparties. Transpower will be involved in all disputes it will gain experience and knowledge in dealing with disputes that other parties will not have. While the increase in Transpower's knowledge will have some benefits, the asymmetric information may mean that counterparties are at a disadvantage as they will be unable to access this knowledge. However, this problem is likely to be small, as independent experts that are available to counterparties would also be able to use knowledge gained from previous dispute resolution processes.

Costs - Administrative costs

- 12.6.27 Costs of administering arrangements will depend on:
- (a) the expertise of the dispute resolution body appointed to deal with each dispute;
 - (b) the search cost of establishing the body; and
 - (c) the administrative costs of dealing with different bodies.
- 12.6.28 Applying normal commercial dispute resolution procedures to all disputes as proposed by the Commission could have slightly higher search costs, as the costs of finding appropriate technical experts would be repeated many times. Such procedures may also have slightly higher costs of resolution for technical disputes, as there is less chance of a body hearing large numbers of technical disputes and thus becoming expert in technical matters over time.

Costs - Additional flexibility

- 12.6.29 The proposal provides parties with the flexibility to choose a mechanism for dispute resolution that they consider to be appropriate.

Conclusion of cost benefit analysis

- 12.6.30 The Commission considers that, on balance, the net benefits of the proposal are greater than either of the reasonably practicable alternatives.

Assessment against the Commission's objectives

Reflect the interests of end use customers

- 12.6.31 The Commission considers that its proposal would maximise the overall net benefits, as discussed in the cost benefit analysis. Because end consumers pay for transmission services, directly or indirectly, the proposal is also in their interests. However, where end use consumers are indirect users of transmission services, any benefits to them would be dependent on those benefits being passed through by counterparties.

Efficient and effective processes for enforcement

- 12.6.32 As per the cost benefit analysis, the Commission considers that the overall net benefit of the proposal would be greater than for the reasonably practicable

alternatives and, therefore, the proposal would be the most efficient dispute resolution option.

Overall conclusion

12.6.33 The Commission considers that the proposal is the best option, as it is likely to better meet the Commission's objectives and result in greater net benefits than the reasonably practicable alternatives by:

- (a) furthering the interests of end consumers;
- (b) leading to greater consistency with standard commercial practice; and
- (c) resulting in a slightly more efficient and effective process for enforcement.

12.7 Proposed rules for development of Connection Code

12.7.1 This section considers the proposed rules for development of a Connection Code.

12.7.2 The Commission's proposal is largely unchanged from that set out in the Benchmark Agreement Consultation Paper. To avoid duplication, the analysis in this section adds to that set out in the consultation paper. That is, the analysis of the rules for development of the Connection Code against section 172F of the Act is set out in:

- (a) section 9.6 of the Benchmark Agreement Consultation Paper – for the original proposal; and
- (b) this section – for the Commission's additional observations relating to the new reasonably practicable alternative of an advisory group, rather than Transpower, developing the new Code.

Statement of Proposal

12.7.3 The Commission's proposal is unchanged from that set out in section 9.6 of the Benchmark Agreement Consultation Paper. That is, the proposal is that Transpower be required to comply with a new Connection Code.

12.7.4 In terms of developing the new Code, the Commission's proposal is to recommend amendments to the Rules that:

- (a) require Transpower to provide a new draft Connection Code developed in accordance with principles to be specified in the Rules, which would be similar to the principles in rule 4.2;
 - (b) provide, if the Code proposed by Transpower is provisionally acceptable to the Commission, for the Commission to publish the draft Code for consultation; and
 - (c) provide for the Commission, after consulting with affected parties, to recommend to the Minister that the new Code be adopted as a schedule to the Rules.
- 12.7.5 The Commission proposes to add the requirement that expected maximum fault level be addressed in the Connection Code, rather than as a information service measure.
- 12.7.6 The Commission favours this change because:
- (a) this shift reflects the nature of forecasting expected maximum fault level. That is, expected maximum fault level is a product of not just Transpower's assets but also those of other connected parties; and
 - (b) it will be a more efficient process for the forecast of expected maximum fault levels.

Submissions

- 12.7.7 Eleven submitters agreed with the need for a Connection Code.
- 12.7.8 One submitter questioned the need for a separate Connection Code, based on the argument that part C already addresses technical compliance and that it would be best for technical compliance to be covered by a single jurisdiction, rather than through a combination of contractual and rules-based requirements.
- 12.7.9 A number of submitters opposed the proposal to let Transpower unilaterally draft a Connection Code for consultation. They considered that it would be better for an advisory group to draft a Connection Code.
- 12.7.10 In drafting comments, Transpower raised concerns that it had in regards to the consultation process on Transpower's recommended Connection Code. Discussion of this point is the same as that set out in relation to the interconnection assets service levels (paragraphs 9.5.3 and 9.5.4).

The Commission's response

- 12.7.11 The Commission considers that there is no need to require Transpower to involve the industry in the development of the Code, as Transpower has expressed a preference for industry participation in its development. The Commission will consult with industry on the draft Connection Code including, where practicable, the Transmission Advisory Group.
- 12.7.12 The Commission considers that it is necessary to have a Connection Code as this will contain connection and equipment requirements for the grid owner and grid users, such as those currently covered by Transpower's connection policy. To not have a code addressing this would have practical implications, such as healthy and safety issues.

Reasonably practicable alternatives

- 12.7.13 The Commission considers the only reasonably practicable alternatives are to adopt Transpower's current connection policy as the Code for the Benchmark Agreement, or to develop a new Code as proposed, but to task an advisory group with developing the Code instead of having Transpower develop the Code for consultation. This second reasonably practicable alternative was not assessed in the Benchmark Agreement Consultation Paper.

Assessment of proposal and alternatives

Cost benefit analysis

Benefits

- 12.7.14 The benefits of the final proposal are the same as those outlined in section 9.6 of the Benchmark Agreement Consultation Paper.
- 12.7.15 In addition, the Commission considers that the proposed process will allow a Code to be developed that takes the interests of both Transpower and counterparties into account. The Commission, therefore, does not consider that the alternative process of having an advisory group rather than Transpower develop the Code would provide any additional benefits over and above those provided by the proposal.

- 12.7.16 The Commission considers that including an expected maximum fault level in the Connection Code is beneficial as it balances the nature of this fault level and the value that the information provides to counterparties (through inclusion in their planning processes).

Costs

- 12.7.17 The costs associated with the final proposal are the same as those outlined in the Benchmark Agreement Consultation Paper.
- 12.7.18 In addition, the Commission considers that it is likely that additional costs would arise from the alternative of tasking an advisory group with developing the Code. The Commission also has some concerns that such a process would cause delays in the development of a Connection Code, and, therefore, the implementation of the Benchmark Agreement.

Conclusion of cost benefit analysis

- 12.7.19 The Commission considers that the net benefits of the proposal exceed those of both reasonably practicable alternatives.

Assessment against the Commission's objectives

Fair and reasonable balance of interests

- 12.7.20 The proposal provides for a consultation process which will provide a reasonable opportunity for counterparties to participate in the development of the final Code. This would also be the case if an advisory group were tasked with developing the Code. However, the Commission does not consider that this would provide significant additional advantages over the proposal in terms of striking a fair and reasonable balance of interests.
- 12.7.21 Including expected maximum fault level reflects a balanced approach. This is discussed above.

Reflect reasonable requirements

- 12.7.22 The Commission considers that the consultative process for the development of the Code would better allow the requirements of counterparties, and the ability of

Transpower to meet those requirements, to be taken into account compared to the alternative of adopting Transpower's current connection policy. The Commission also does not believe that the alternative process to involve an advisory group would achieve this objective any better.

Appropriate to the technical requirements of services, but not duplicate the grid reliability standards

12.7.23 The Commission does not consider that the alternative of adopting Transpower's current connection policy would achieve this objective as successfully as the proposal. The Commission has concerns that there may be an imbalance in the technical requirements of Transpower's current connection policy.

12.7.24 The Commission considers that the proposal and the alternative of using an advisory group to draft the Code will both result in a Connection Code that has the appropriate technical requirements.

Efficient and effective processes for enforcement

12.7.25 The Commission considers that the outcomes of both the proposed process and that of using an advisory group would achieve similar outcomes in this regard.

Conclusion

12.7.26 The Commission considers that the proposal (i.e., rules setting out a process for the development of the Code by Transpower) best meets the Commission's objectives.

12.8 Access and occupation issues

12.8.1 This chapter discusses the Commission's proposal for access and occupation under the Benchmark Agreement.

Statement of proposal

12.8.2 The Commission's overall proposal is unchanged from that set out in section 9.7 of the Benchmark Agreement Consultation Paper. However, the Commission has clarified the proposal in a number of respects as follows.

- (a) The access and occupation schedule would apply where a customer has facilities on Transpower's land and there is no written agreement covering the occupation. This would also cover situations both where there is an informal arrangement that is not in writing and situations where no formal or informal arrangement exists at all.
- (b) The access and occupation schedule would not apply to a customer's equipment and facilities which are existing works as defined by the Act.
- (c) A counterparty's liability to Transpower for losses that are suffered by Transpower and that are attributable to the counterparty would be subject to the liability caps contained in the Benchmark Agreement.
- (d) The access and occupation schedule would not apply to new installations, as arrangements for new installations can be addressed by either bilateral negotiation or the new investment requirements discussed in section 6.6 of this paper.
- (e) Existing access and occupational arrangements will be preserved through clause 28 of the draft Benchmark Agreement.

Submissions

- 12.8.3 A majority of submitters agreed that a default access and occupation schedule should be included. Some submitters qualified their support for the proposal. A number of submitters disagreed with the proposal and another submitter was uncertain whether an access and occupation schedule is necessary.
- 12.8.4 Key points raised by submitters in respect of the Commission's proposal include:
- (a) the proposal should provide for reciprocal terms and conditions where Transpower occupies a counterparty's land;
 - (b) Transpower would not have an incentive to negotiate anything different from the default access and occupation schedule;
 - (c) the proposal to retain existing access and occupation agreements ignores the fact that these may be less favourable than the default access and occupation schedule;
 - (d) it is inappropriate to impose unlimited liability on the counterparty with respect to losses suffered by Transpower that are attributable to the counterparty;

- (e) the default schedule should not apply to facilities and equipment that are existing works under the Act, or to the installation of non-essential facilities and equipment; and
- (f) the scope of the default schedule could be extended to new customer facilities where the installation on Transpower's land is essential to enable connection.

12.8.5 Transpower considered that the customer should not be allowed to exclude entry to the land in certain emergencies involving public safety or security as proposed in the draft access and occupation schedule.

The Commission's response

12.8.6 The Commission's intention is that liability under the access and occupation schedule would be subject to the liability caps contained in the Benchmark Agreement. The Commission has clarified its proposal accordingly.

12.8.7 In regard to the argument that Transpower will not have any incentive to negotiate anything different to the access and occupation schedule, the Commission has noted that the same concern applies to the Benchmark Agreement as a whole. However, the schedule will only apply where parties do not already have agreements pertaining to access and occupation. The Commission considers that it is not necessary to deal with this point at this stage. However, if this continues to be an issue the Commission will investigate and further consider possible options at a later date.

12.8.8 In terms of the discomfort of some submitters with a uniform approach being applied, it is important to note that the Benchmark Agreement is intended to set default terms and, therefore, a uniform approach is required. Counterparties and Transpower are able to agree on different terms if they wish to do so.

12.8.9 Existing access and occupational arrangements will be preserved under the Benchmark Agreement. As noted above, if parties have negotiated an arrangement which they consider less favourable than the default schedule, this will stand. The Commission does not wish to override existing contractual arrangements. The Commission also agrees that the access and occupation schedule should not apply to a customer's equipment and facilities which are existing works as defined by the Act.

- 12.8.10 The access and occupation schedule need not, and should not, provide for counterparties to prevent Transpower from accessing land in emergencies, but justifiably restricts Transpower's rights to access 'Facility Areas'. The final proposal has been amended accordingly.
- 12.8.11 The following sets out comments on the Access and Occupation schedule to the Benchmark Agreement received by the Commission during the drafting comments period and its responses to these comments:
- (a) New Structures and Equipment – Transpower considers that the proposal is “inconsistent with Transpower’s ownership rights. Since it is Transpower’s land, Transpower should have an unfettered right to decide what gets constructed on its land. To provide otherwise is an unreasonable and unwarranted intervention in its indefeasible title to the land.”
- The Commission disagrees with this point and considers it is appropriate to require Transpower to act reasonably (if its concerns are warranted then consent may be withheld). Transpower receives a licence fee and, therefore, should be required to act reasonably. The Commission also notes that it has already narrowed customer’s rights from constructing facilities on the Land, to constructing facilities on the Facility Area.
- (b) Contractor works – Transpower considers that it should have the final say as to whether contractors or tradesmen may work on Transpower’s land.
- The Commission disagrees with this point as Transpower already has the right to “vet” the contractors under the clause, and that this should be restricted by the requirement to act reasonably.

Overall conclusion

- 12.8.12 The Commission considers that the cost benefit analysis and assessment of the proposal against the Commission’s objectives in section 9.7 of the Benchmark Agreement Consultation Paper is still applicable.
- 12.8.13 The Commission continues to consider that the clarified proposal maximises net benefits, in comparison with the alternative options considered in the Benchmark Agreement Consultation Paper, and best meets the Commission’s objectives.

13. Benchmark Agreement - consistency with the GRS

13.1 Introduction

13.1.1 This chapter discusses:

- (a) a proposal to include provisions in the Benchmark Agreement relating to investment in connection assets, where the assets have been identified as not consistent with the GRS assets (section 10.2 in the Benchmark Agreement Consultation Paper);
- (b) whether there is an issue with counterparties negotiating the provision of new connections or upgrades to existing connections (section 10.3 in the Benchmark Agreement Consultation Paper); and
- (c) a proposal to amend rule 8 of section III of part F to allow, in certain circumstances, investment contracts to provide for a lesser reliability level than the GRS (section 10.4 in the Benchmark Agreement Consultation Paper).

13.1.2 The Commission's proposals are largely unchanged from those set out in the Benchmark Agreement Consultation Paper. In addition, some aspects of the Commission's proposals reflect options outlined in the invitation for cross-submissions.

13.1.3 To avoid duplication, the analysis in this section adds to that set out in the consultation paper. That is, the analysis of the Commission's proposals for rule changes related to consistency and other investment issues for the Benchmark Agreement against section 172F of the Act is set out in:

- (a) section 10 of the Benchmark Agreement Consultation Paper – for the original proposal; and
- (b) this section – for the Commission's additional observations in respect of the final proposals which have been amended and clarified as a result of the consultation process.

13.2 Background and original proposal

13.2.1 Rule 3.2 requires that transmission agreements be consistent in all material respects with the Benchmark Agreement and GRS.

- 13.2.2 Rule 5.1 requires Transpower and the counterparty to certify to the Board in writing that they have consulted with affected end use customers if they wish to increase service above the GRS.
- 13.2.3 Rule 5.2 requires Transpower and the counterparty to obtain approval from the Board to vary the level of service below the GRS.
- 13.2.4 There is no explicit requirement on Transpower to propose investment where the current level of connection assets is inadequate to maintain a GRS level of reliability.
- 13.2.5 If both Transpower and the counterparty agree to a new investment to maintain service consistent with the GRS under a transmission agreement, then there is no issue of compliance with the GRS. However, if the parties do not agree to a new investment to maintain service at the levels required by the GRS, there is a potential for inconsistency with the GRS, unless the process for variations under rule 5 is followed.
- 13.2.6 If the counterparty refuses to agree to support a new investment, Transpower has the ability to seek approval from the Commission through the GUP process. However, a counterparty is unable to require Transpower to invest, even where the level of reliability without the investment would fall below the level required by the GRS. The Commission can request that Transpower submit a GUP, but this in itself does not require Transpower to actually carry out the investment to meet the requirements of the GRS. This situation creates an asymmetry between the counterparty and Transpower, and means that the Commission does not have the ability to ensure that parties meet the GRS for services provided under the Benchmark Agreement.
- 13.2.7 In its original proposal, the Commission suggested that Transpower be required to propose a grid investment to a counterparty within six months of the Grid Reliability Report (**GRR**) identifying that the connection assets are not expected to meet the n-1 reliability criterion at a grid exit point (**GXP**) over the next five years. Where Transpower and the counterparty are unable to agree on an investment (or they are unable to agree to vary service levels consistent with the Rules), Transpower would be able to submit a proposal in a GUP.
- 13.2.8 The Commission further proposed to amend rule 8 of section III of part F to allow investment contracts to provide for a lesser reliability level than the GRS, provided Transpower and the counterparty have complied with the provisions of rule 5.2.

13.2.9 In making this proposal, the Commission reads part F as requiring Transpower to report under the GRR on situations where the GRS may not be met in future, either due to load growth or assets requiring replacement for other reasons.

13.3 Views sought through the consultation process

13.3.1 In the addendum to the Benchmark Agreement Consultation Paper, Commissioner Pinnell suggested that the proposal may be inconsistent with the asset availability approach to defining transmission services because Transpower could hold out for grid investment that meets the GRS. This would mean that the decision rights for investment in connection assets would not lie solely with the connection customer. Commissioner Pinnell sought views on whether:

- (a) the GIT should be amended to require the Commission to have regard to the interests of, and effects on, customers when establishing the value of unserved energy;
- (b) clause 34.2(b) of the draft Benchmark Agreement should be amended to clarify that decision rights for investment in connection assets or varying service levels lie with the customer subject to rule 5, and to only permit Transpower to submit a GUP when multiple counterparties at one point of connection do not reach agreement among themselves on an investment; and
- (c) the Rules should be amended so that the GRR is an assessment of the capability of the power system to meet the GRS rather than the n-1 criterion over the next ten years.

13.3.2 In the invitation for cross-submissions, the Commission sought views on a possible alternative approach to give counterparties greater decision-making rights in respect of investment in connection assets. In broad terms, key features of this approach were:

- (a) if Transpower identifies that a connection point's capacity is likely to fall below the n-1 reliability criterion, it would be required to investigate whether the connection assets meet the GRS and, if not, develop alternative proposals and submit them to the counterparty;
- (b) Transpower and the counterparty would be given six months to agree on whether to invest or take some other action; and

- (c) if no agreement is reached within six months, the counterparty would either carry out investment itself, contract with a third party or take some other action to address the situation as it sees fit.

13.4 Submissions

13.4.1 Key points raised by submitters were as follows.

- (a) Some submitters opposed the Commission's original proposal on the grounds that the reliability of connection assets is best left to bilateral negotiations between Transpower and counterparties.
- (b) Some submitters considered that the Commission's alternative option (outlined in the invitation for cross-submissions) alleviated the concerns of many submitters by putting customers back into the position of determining the kind of connection assets they should have. Also, they considered that the proposal to give customers the ability to specify their own Value of Lost Load (**VOLL**), subject to a reasonableness requirement, is a desirable feature of the alternative proposal.
- (c) One submitter considered the alternative proposal to still be insufficiently developed.
- (d) Another submitter believed that allowing a third party to build assets provides for additional competitive discipline on Transpower to manage costs and construction risks. An important consideration is the need to ensure alignment with regulatory frameworks, in particular, the Commerce Commission's price thresholds and the Commission's development of the TPM.
- (e) Transpower agreed with the proposal insofar as it requires Transpower to investigate and develop proposals for connection assets to meet the GRS. However, Transpower strongly disagreed with the proposal to enable the counterparty to carry out the investment itself on Transpower land. Transpower also disagreed with the proposal that distributors, generators and directly connected consumers would be able to specify their own VOLL. Transpower also disagreed that the six-month period for Transpower and a counterparty to agree on an investment was sufficient.
- (f) In respect of the exception to the GRS for investment contracts (rule 8), most submitters agreed with the proposal, with Transpower being of the view that, where Transpower and a counterparty that is not a lines company agree (as documented in an investment contract) on a reliability

standard less onerous than that required by the GRS, then no approval by the Commission should be required.

13.5 The Commission's response

13.5.1 In light of the support in cross-submissions for the alternative approach to connection assets set out in the invitation for cross-submissions, the Commission has decided to propose this approach, but with some modifications. This modified approach was set out in section 7.10 of the Summary and Response Paper.

13.5.2 In response to Transpower's concerns, the Commission has dropped the proposal that Transpower be required to provide access to its land where a counterparty or third party carries out the investment. Instead, the customer's right to invest themselves is subject to a requirement to obtain land access rights from Transpower.

13.5.3 The Commission continues to consider that counterparties should be entitled to specify their own VOLL, but subject to a requirement of reasonableness.

13.5.4 The Commission's final proposal is set out in full in the next section.

13.6 The Commission's final proposal

13.6.1 The Commission proposes that Transpower be required to propose investment to a counterparty within six months, unless another timeframe is agreed to, where the GRR has identified that connection assets are not expected to meet n-1 criterion at a GXP over the next five years.

13.6.2 If Transpower identifies that connection point capacity is likely to fall below the n-1 criterion, Transpower would be required to assess whether the connection asset meets the GRS. If the connection asset does not meet the GRS, Transpower would be required to notify the counterparty. The counterparty may then propose the use of an alternative VOLL. If Transpower does not consider that any alternative VOLL is reasonable, the matter may be referred to the Commission for provisional approval.

13.6.3 After giving notice to the counterparty, Transpower would be required to develop alternative proposals to enable the connection assets to meet the GRS (taking into account any alternative VOLL that is considered reasonable or was approved by the Commission), and propose these alternatives to the counterparty under any transmission agreement that applies to that asset.

- 13.6.4 Where the counterparty and Transpower agree on investment to meet the requirements of the GRS (as specified in the Rules or amended to take into account any alternative VOLL), then no further action would be required. If the parties decide not to invest, rule 5.2 requires Transpower and the counterparty to obtain agreement from the Commission to reduce the reliability levels below the level required by the GRS.
- 13.6.5 Transpower and the counterparty have six months, or such longer time as the agreed to by the parties, to agree on whether to invest or take some other action, subject to complying with rule 5 (if it applies) If an alternative VOLL was used, whether or not it was provisionally approved, the parties would also have to seek final approval of the alternative VOLL from the Commission. If no agreement is reached within six months, Transpower would be able to ask the Commission to request that Transpower include an investment in a GUP. If Transpower did not wish to make such a request, or it is declined by the Commission (and subject to complying with rules 5.1 to 5.3 (if they apply), good electricity industry practice and negotiating any necessary land access with Transpower), the counterparty could either:
- (a) carry out investment itself;
 - (b) contract with a third party to do so; or
 - (c) take some other action to address the situation, as it sees fit.
- 13.6.6 This proposal requires an amendment to the GUP process in section III of part F of the Rules to prohibit Transpower from applying for a GUP for the connection assets if the counterparty does not agree, except where Transpower has been requested by the Commission to include an investment in a GUP. Transpower would have the ability to ask the Commission to request that it propose an investment.
- 13.6.7 A new rule is also required in rule 5 to provide for the Commission to provisionally approve an alternative VOLL proposed by the counterparty. This would allow the parties to negotiate an investment, or other solution, on the basis of the alternative VOLL, while still requiring final approval of the VOLL for the purposes of rules 5.1, 5.2 and 5.3 once the parties reach agreement. This allows the Commission to consider whether the alternative VOLL is reasonable at the time the investment (or other solution), not just at the start of what is potentially a lengthy negotiation process.

- 13.6.8 One party submitted in the drafting comments that the proposal be amended so that the Board could only reject a proposal put forward by a counterparty where the Board considers the customers VOLL was not a reasonable estimate.
- 13.6.9 The Commission disagrees with this point and considers that the existing process for considering and approving investment appropriately allows for alternative investment proposals. The Commission notes that:
- (a) if a customer specific VOLL exists, this value would be used unless:
 - (i) Transpower considered it was inappropriate and provided information and reasoning to support its view; and
 - (ii) the Commission agreed the value was inappropriate, in which case the GIT would either use the value submitted by Transpower, or some other value considered reasonable by the Board; and
 - (b) the customers proposal would likely be included as an alternative project provided that it met the criteria in the GIT.
- 13.6.10 The Commission considers that the proposal balances Transpower's role as grid planner and the interests of counterparties, and that this balance is vital for efficient operation of, and investment in, the grid. For this reason, and the reasons above, the Commission does not consider that the suggestion made is a reasonably practicable alternative.
- 13.6.11 The Commission also proposes to make it clear that Transpower would not be required to propose an investment where an investment had already been approved, or had been proposed in a GUP to the Commission but not approved.
- 13.6.12 Where there is more than one counterparty sharing a connection point that does not meet the GRS, Transpower would be required under the Rules to propose options for ensuring that the connection assets meet the GRS to the affected counterparties. Transpower and the counterparties would then have six months to reach an agreement for an investment (or other solution) that will maintain the level of reliability for the connection assets at the GRS or, subject to compliance with rule 5, increasing or decreasing the level of reliability above or below the GRS.
- 13.6.13 Transpower would only be able to undertake an investment in shared connection assets where all the affected counterparties agree or, failing agreement, where

Transpower had been asked by the Commission to include an investment in a GUP. Transpower would have the ability to ask the Commission to request that it propose an investment.

13.6.14 A submission made in drafting comments period was that if customers sharing a connection asset agree not to invest, the Commission should not be able to approve investment in new assets. The Commission disagrees with this point as a process is required to break deadlocks where customers and Transpower cannot agree on an outcome. This provision mirrors that in the Benchmark Agreement on connection assets that are not shared. The Commission also notes that, where customers agree not to invest and this decision is appropriate, it is highly unlikely that the Board would request Transpower to submit an investment or approve a proposed investment by Transpower.

13.6.15 Transpower suggested during the consultation process that an addition be made to the proposed rules that positively states that it is able to write to the Board ask that it consider requesting a GUP. The Commission has considered this point and decided to include a rule relating to this point.

13.6.16 In summary, the Commission considers that the changes of note to the proposal are:

- (a) the addition of the ability for counterparties to seek the Commission's approval for an alternative VOLL; and
- (b) that counterparties are able to undertake investment themselves where agreement cannot be reached.

13.6.17 This change is referred to as the additional proposal.

13.7 The Commission's objectives

13.7.1 The Commission considers that its assessment of the original proposal against its objectives is still applicable.

13.7.2 The Commission's objective in making this additional proposal is the same as outlined in the Benchmark Agreement Consultation Paper, namely that the proposal ensures that Transpower invests in the grid in an efficient, fair and reliable manner.

13.7.3 This objective is drawn from the Commission's principal objectives in section 172N(1) of the Act. While the Commission's principal objectives in section 172N

also include other objectives, the Commission does not consider that they are relevant to determining the appropriate approach to investments.

13.8 Statement of reasons

13.8.1 The Commission's reasons for the additional proposal are the same as outlined in the Benchmark Agreement Consultation Paper.

13.8.2 In addition, the Commission considers that allowing counterparties to specify their own VOLL for use in applying the GRS to connection assets, subject to a reasonableness requirement, will help ensure that the interests of end users are appropriately reflected. The Commission has also included this requirement to allow Transpower and the counterparty (or counterparties) to agree to a timeframe longer than six months for reaching an investment proposal.

13.8.3 The ability for counterparties to invest themselves where agreement cannot be reached is efficient as it will allow counterparties to invest appropriately, provides an incentive on Transpower to offer appropriate assets. The Commission also notes that it will have the ability to request a GUP from Transpower where it considers it is necessary.

13.9 Reasonably practicable alternatives

13.9.1 The Commission considers that the only reasonably practicable alternative to the additional proposal is not to include either one, or both of the elements of the additional proposal.

13.10 Assessment of proposal and alternative

Cost benefit analysis

13.10.1 An assessment of the benefits and costs of the original proposal is outlined in the Benchmark Agreement Consultation Paper.

13.10.2 The following analysis is in addition to that analysis referred to above.

More efficient decision making

13.10.3 The proposal to allow counterparties to specify their own VOLL, subject to a reasonableness requirement will ensure that the GRS (as it relates to connection assets) better reflects the interests of counterparties. To the extent that the

VOLL specified by counterparties better reflects the underlying cost of supply interruptions, this will lead to better decision-making in relation to investments in connection assets.

- 13.10.4 Allowing counterparties to invest where agreement is not reached means that investment should be efficient as counterparties can consider all factors in reaching an investment decision. Transpower also has a strong incentive, relative to the proposal set out in the Benchmark Agreement Consultation Paper, to work with counterparties to develop and provide the appropriate investment. Where this process fails, counterparties will be able to undertake investment themselves, seek exemption from the GRS via rule 5.2, or the Commission could request a GUP from Transpower.

Administrative cost

- 13.10.5 The Commission notes that there will be some cost incurred by the counterparty and the Commission in preparing and hearing submissions for an alternative VOLL. The Commission considers that these costs will not be significant.
- 13.10.6 Allowing counterparties to undertake investment themselves will reduce the Commission's administrative costs as failure to agree on an investment will not result in the automatic submission of a GUP (Transpower would also not need to submit a GUP in all situations where agreement is not reached). However, the administrative costs of counterparties would likely increase as it takes on the work of Transpower and the Commission. The Commission considers that, on balance, the revised proposal and original proposal are not differentiated in regards to administrative cost.

Benefit costs conclusion

- 13.10.7 The Commission considers that the benefits of efficient investment decision-making will outweigh the costs of the additional proposal, relative to the alternative of no change.
- 13.10.8 On balance, the Commission considers that the additional proposal is likely to result in greater net benefits than the alternative, as it requires Transpower involvement in any decision not to provide for a level of security that meets the GRS.

Assessment against the Commission's objectives

13.10.9 The Commission's assessment of the original proposal against the Commission's objectives is the same as presented in the Benchmark Agreement Consultation Paper. The assessment of the additional proposal against this objective is as follows.

Transpower invests in the grid in an efficient, fair and reliable manner

13.10.10 The Commission considers that the additional proposal best meets this objective as it allows counterparties to adjust their VOLL, which will, in turn, ensure that investment in the grid is efficient.

13.10.11 If counterparties are able to undertake investment themselves, the Commission considers that Transpower will be incentivised to offer counterparties efficient investment solutions. This means that where Transpower undertakes investment it will be efficient.

Overall conclusion

13.10.12 The Commission considers that the assessment of the original proposal against the Commission's objectives in section 10.2 of the Benchmark Agreement Consultation Paper is still applicable to the final proposal.

13.10.13 In relation to the additional proposal, the Commission considers that the additional proposal will better promote its objectives than the alternative and is net positive compared to the alternative of not including the proposal.

13.11 New investment - upgrades to connection and new connections

13.11.1 This section discusses whether a rule change is required to address situations where transmission customers require new connections to the grid or upgrades to existing assets, not covered by the previous proposal.

13.11.2 The Commission raised this issue in the Benchmark Agreement Consultation Paper to see whether there was sufficient concern about the issue for it to be considered further. The Commission stated that, if it considers a rule change is required, it will consult in accordance with section 172E of the Act, and carry out an analysis under section 172F of the Act, at a later stage.

13.11.3 The Commission considers that there is sufficient concern about the way that Transpower approaches new connections and upgrades to justify it undertaking further work on this issue. Therefore, the Commission intends to review this issue after the work on the Benchmark Agreement and Interconnection Rules has been completed. As noted above, if it considers that the process of reaching agreement on new connections and upgrades should be regulated, it will consult in accordance with section 172E.

13.12 Exception to GRS for investment contracts (rule 8)

Introduction

13.12.1 In the Benchmark Agreement Consultation Paper, the Commission proposed to amend rule 8 of section III of part F to allow investment contracts for connection assets to provide for a lesser reliability level than required by the GRS, provided Transpower and the counterparty have complied with the provisions of rule 5.2.

13.12.2 The Commission's reasons for proposing this rule change are set out below.

- (a) The rule change will enable Transpower and counterparties to reach agreement on investments that deliver a lower standard of reliability than the GRS requires. Where such a lower level of reliability best meets the contracting parties' needs, the proposal allows the parties to avoid the cost of having to invest to the GRS level of reliability. Without this rule change, either these investments would not occur, which could be inefficient, or Transpower would invest to an inefficient level.
- (b) The proposed rule change will ensure consistency with rule 5.2, which allows transmission agreements to provide for a lower level of reliability than required by the GRS, where the interests of other designated transmission customers and of end use customers is taken into account. This is especially important because any transmission agreement that also provides for new investment is an investment contract.

13.12.3 The requirement to comply with rule 5.2 will ensure that the interests of other designated transmission customers and of end use customers will be taken into account by the Commission in approving the reduced standard of reliability.

Submissions

13.12.4 The Commission received 11 submissions on this proposal. These submissions all agreed with the Commission's proposal.

Conclusion

13.12.5 Following completion of the consultation process, the Commission is still of the view that the proposal is appropriate.

14. Benchmark Agreement - local quality issues

14.1 Introduction

14.1.1 In the Interconnection and Benchmark Agreement Consultation Papers, consideration was given to whether the combination of a Benchmark Agreement based on the asset availability approach to service definition and the common quality provisions set out in part C leaves a gap relating to local quality (essentially about voltage regulation at GXPs).

14.1.2 The Commission considered that local quality issues were adequately covered by the proposal's requirement for service measure for voltage range of connection assets (i.e., the voltage range must be consistent with the High Voltage Range set out in Asset Owner Performance Obligations (**AOPOs**), or consistent with any dispensation or equivalence arrangement granted or agreed under part C).

14.2 Submissions

14.2.1 The Commission received ten submissions on this proposal. The main points arising from submissions were that:

- (a) transitional arrangements which currently apply should be extended until the end of the life of the assets that have dispensations under part I of the Rules;
- (b) a generic set of codes, protocols and standards should be established to address this issue; and
- (c) a requirement should be added that would require Transpower to negotiate in good faith to establish local quality agreements with its customers.

14.3 The Commission's response

14.3.1 The Commission is not convinced that a generic code is the appropriate response to local quality issues. As local quality is, by definition, an issue relating to particular GXPs or counterparties, these are best addressed by contractual arrangements between Transpower and the counterparty, subject to the requirement to provide transmission assets at the appropriate high voltage range.

14.3.2 The Commission considers that incorporating a good-faith negotiating requirement in relation to local quality would be inappropriate. While the Commission expects that parties will negotiate in good faith, the inclusion of such

a provision would raise difficult enforcement issues – i.e., the need for a body to determine whether a party has negotiated in good faith.

14.3.3 The Commission considered that the proposal by Transpower and Meridian referred to in paragraph 14.2.1(a) above, that the transitional arrangements continue to apply, has merit. The Commission has, therefore, clarified clause 4.2 of the Benchmark Agreement to preserve the effect of transitional arrangements under rule 2. These local quality arrangements will continue to apply until the end of the life of the relevant assets or until the dispensation is removed.

14.3.4 The Commission intends to review the local quality dispensations granted under part I in the Rules at a future date. The Commission considers that it is important that, where possible, the costs of local quality agreements be allocated to the party causing that cost.

14.4 Conclusion

14.4.1 The Commission's proposal is unchanged apart from the addition of the exemption of assets granted dispensations under part I of the Rules. The Commission considers that this is only a minor change that will not significantly affect Transpower or counterparties, as it merely preserves the current effect of the Rules.

15. Interconnection Rules - proposed Outage Protocol rules

15.1.1 This chapter discusses the Commission's proposals for rules to provide for the preparation of an Outage Protocol, covering both connection and interconnection assets. The Commission has made some changes to its initial proposal set out in the Interconnection Rules Consultation Paper.

15.1.2 To avoid duplication, the analysis in this section adds to that set out in the consultation paper. That is, the analysis of the Commission's proposal for the establishment of an Outage Protocol against section 172F of the Act is set out in:

- (a) Section 7 of the Interconnection Rules Consultation Paper; and
- (b) this section - for changes to the Commission's proposal (as a result of consultation)..

15.2 Submissions

15.2.1 The proposed rules to provide for the preparation of the Outage Protocol are set out in proposed new section VII of part F.

15.2.2 The Commission received a large number of submissions in response to the original proposal. The key issues raised in submissions were as follows:

- (a) There was general support from submitters for an Outage Protocol, but this support was qualified in almost all cases. Transpower and Contact were opposed outright to the Commission's Outage Protocol proposal.
- (b) Location of the Outage Protocol – some submitters argued that, if interconnection asset services were also covered by the Benchmark Agreement, the Outage Protocol could be included as a schedule to the Benchmark Agreement. Another submitter questioned whether it would be more appropriate to include the Outage Protocol as a schedule to technical code D of schedule C3 of part C of the Rules.
- (c) Connection asset outages where agreement cannot be reached – a number of submitters were concerned with the proposal that Transpower would be able to proceed with outages even without the consent of affected parties, with other parties bearing the risk. Similarly, one submitter argued that disputes between Transpower and counterparties should be addressed by the Rulings Panel.

- (d) Different processes for connection and interconnection assets – some submitters argued if an interconnection outage could affect the performance of particular connection assets, that the relevant counterparties should be consulted as if the outage were a connection asset outage.
- (e) Net benefits test and objectives – some submitters did not support the net benefits test and considered that the principal obligation for all parties should be to minimise the number and duration of outages, and that the net benefit test should be used to select between time options for outages, with a focus on cost minimisation for end-use customers. Another submitter suggested that Transpower should seek to minimise binding constraints when undertaking maintenance. Some submitters questioned whether Transpower would be best placed to undertake such a test.
- (f) Duration of outages – one submitter considered that subjecting both outages of short duration and the permanent decommissioning of assets to the same test could lead to decommissioning which compromises services to customers.
- (g) VOLL – Some submitters observed that VOLL is not a single value, but would vary in line with the timing and duration of a proposed outage.
- (h) Compliance costs – some submitters were concerned about the compliance costs associated with the proposal. One submitter argued that not all outages should require a detailed net benefits assessment. Transpower was concerned that the proposed net benefits test would impose high costs on it.
- (i) Reporting requirements – one submitter considered that reporting requirements should be extended to include the details of actual and planned capacity reductions, planned and unplanned outages, and decommissioning when undertaken in compliance with the Outage Protocol.

15.2.3 During the drafting comments, Transpower raised concerns that it had in regards to the consultation process for Transpower's recommended Outage Protocol. Discussion of this point is the same as that set out in relation to the interconnection assets service levels (paragraphs 9.5.3 and 9.5.4).

15.3 The Commission's response

- 15.3.1 The Commission notes the general level of support from submitters for an Outage Protocol with an obligation on Transpower to take account of costs and benefits to other participants. The Commission also recognises the concern that the obligations may result in excessive compliance costs. Further concerns related to the potential costs and practicality of the net benefit test.
- 15.3.2 The Commission continues to consider that it is appropriate for the Outage Protocol to require Transpower to take account of the net benefits when planning and undertaking outages. However, in light of the submissions, the Commission wishes to clarify the situations where this obligation applies and make it clear that Transpower's judgements about outages only need to be reasonable and made in good faith. The amendments to the proposal reflect this. In response to submissions made by various parties during the consultation process, the Commission provided a number of clarifications in its Summary and Response Paper.
- 15.3.3 Since the Commission still proposes to include interconnection asset services in the Rules, the points regarding alternative locations for the Outage Protocol are moot.
- 15.3.4 The Commission does not agree that the counterparties to the Benchmark Agreement should have final decision rights on outages because Transpower needs the ability to withdraw assets to effectively maintain the grid, and to protect staff and equipment.
- 15.3.5 The Commission has clarified its proposal for Transpower to take account of net benefits in the outage by proposing that the Outage Protocol Rules specify a net benefits principle. The net benefits principle will assist in the preparation of the Outage Protocol by providing high level guidance on how the benefits and costs of outages are to be considered by Transpower for interconnection outages, and for connection outages that are not agreed with the relevant counterparty. Many outages should be addressed by agreement between Transpower and the counterparty and would consequently not require consideration of costs and benefits. This clarification is intended to address the concern that all outages would require a detailed net benefits assessment, and should also address concerns about compliance costs.

- 15.3.6 The proposed net benefits principle is that Transpower would plan outages taking into account the expected net benefits to those persons who produce, transmit, distribute, retail or consume electricity for:
- (a) interconnection assets, to the extent those persons are affected by an outage; and
 - (b) connection assets, where Transpower has not agreed the timing and duration of the outage with the relevant counterparty, to the extent those persons are affected by an outage.
- 15.3.7 The Commission has also clarified the proposed requirements on Transpower by including a rule requiring the Outage Protocol to specify that Transpower only needs to act reasonably and in good faith, taking into account the information that is reasonably known at that time or can be reasonably forecast when determining outages or varying planned outages. This should also address concerns about compliance costs. The Commission also notes the addition of an obligation on counterparties to act in good faith.
- 15.3.8 To take account of the Commission's view that comprehensive analysis of costs and benefits is required in a few cases and, in some cases, no analysis of costs and benefits is necessary, and to provide guidance to Transpower, the Commission has amended the proposals to allow the Outage Protocol to provide for Transpower to take into account specific costs and benefits that Transpower could take into account in the following scenarios.

Table 5: Scenarios and corresponding level of analysis

| Level | Likely outcome | Key costs and benefits |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| Level One | Outage is unlikely to result in the power system failing to meet the GRS, give rise to binding constraints or result in loss of supply to consumers. | No consideration of net benefits required. |

| Level | Likely outcome | Key costs and benefits |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Level Two | Outage is likely to result in the power system failing to meet the GRS, but is not expected to result in binding constraints or loss of supply to consumers. | <p>Costs: Direct labour and material costs incurred, the extent of any increase in the expected unserved energy arising from any increased risk of loss of supply and any other costs relevant to the outage.</p> <p>Benefits: The extent of any reduction in the expected unserved energy arising from any decrease in risk that future outages may result in loss of supply, any reduction in maintenance costs, any other benefit specified in the Outage Protocol that is relevant to the outage.</p> |
| Level Three | Outage is likely to give rise to binding constraints, whether or not the outage is also likely to result in a loss of supply to consumers. | <p>Costs: Direct labour and material costs incurred, the extent of any increase in the expected unserved energy arising from any increased risk of loss of supply, any additional fuel costs incurred by generators, and any other benefit specified in the Outage Protocol that is relevant to the outage.</p> <p>Benefits: Any reduction in maintenance costs, any reduction in fuel costs incurred by generators, and any other benefit specified in the Outage Protocol that is relevant to the outage.</p> |
| Level Four | Outage is likely to lead to loss of supply to consumers, whether or not the outage is also likely to give rise to binding constraints. | <p>Costs: Direct labour and material costs incurred, the extent of any increase in the expected unserved energy arising from any increased loss of supply and any other costs relevant to the outage.</p> <p>Benefits: Any reduction in maintenance costs, the extent of any decrease in the expected unserved energy, any reduction in fuel costs incurred by generators and any other benefit specified in the Outage Protocol that is relevant to the outage.</p> |

15.3.9 As the situations described in the table may not cover every outage, the amended proposal allows the Outage Protocol to specify additional requirements that would apply in other situations. These requirements would still have need to

give effect to the net benefits principle. The different tests will be the subject of further work as Transpower develops the initial Outage Protocol and the Board consults with affected parties.

15.3.10 The Commission agrees with submitters that there should be a separate process for the permanent decommissioning of assets and, therefore, proposes that permanent decommissioning not be governed by the Outage Protocol. Different procedures will apply for the permanent decommissioning of shared connection assets, unshared connection assets, and interconnection assets. Unshared connection assets would only be able to be permanently decommissioned if the counterparty agrees, such agreement not to be unreasonably withheld. Shared connection assets would only be able to be permanently decommissioned if all affected counterparties agree or, failing agreement, if the decommissioning met a net benefits test. Interconnection assets would only be able to be permanently decommissioned if the decommissioning met a net benefits test.

15.3.11 In response to Transpower's concerns surrounding the health and safety justifications for an outage, the Commission has clarified that health and safety reasons may make it necessary to vary a planned outage and this will not be subject to a requirement to consider costs and benefits. However, Transpower will need to be able to provide evidence to support variations to planned outages on health and safety grounds.

15.4 Statement of proposal

15.4.1 The Commission's proposal is substantially the same as that set out in the Interconnection Rules Consultation Paper. However, the Commission has provided further detail and clarifications of its proposal, and redrafted some of its proposed rules accordingly. These clarifications and the added detail are explained above.

15.4.2 In addition to this, the Commission proposes to define outages as those greater than one minute.

15.5 Commission's objectives

15.5.1 The Commission considers that the following objectives, drawn from the principal objectives in section 172N(1) of the Act, are relevant:

- (a) efficient production and delivery of electricity;
- (b) fair production and delivery of electricity; and

(c) reliable production and delivery of electricity.

15.5.2 The Commission considers that these objectives overlap with, and are consistent with, the relevant GPS objectives for transmission.

15.6 Statement of reasons

15.6.1 The Commission proposes to adopt the rules providing for development of the Outage Protocol, as described in the Interconnection Rules Consultation Paper and as clarified and amended above. The clarified and amended proposed rules further the Commission's objectives by encouraging more efficient production and delivery of electricity by providing incentives for the grid owner to manage the transmission system in a way that maximises the net market benefits. The clarifications and amendments outlined above enhance the clarity and administrative efficiency of the proposal while achieving substantially unchanged benefits.

15.6.2 The Commission considers that its clarified and amended proposed rules for development of an Outage Protocol continue to provide a sound basis for enforcing capacity service measures by applying the net benefit principle for withdrawal of capacity and outages.

15.6.3 The Outage Protocol will provide clarity as to the requirements on Transpower to take account of broader industry interests and promote the operation of the grid consistent with interests of all grid users.

15.7 Reasonably practicable alternatives

15.7.1 The reasonably practicable alternatives for governing outages of interconnection and connection assets were stated in Section 7.4 of the Interconnection Rules Consultation Paper. These continue to apply to the amended and clarified proposal. These are:

- (a) no Outage Protocol;
- (b) an Outage Protocol covering the consultation process, i.e., no net benefit assessment;
- (c) an Outage Protocol covering the consultation process and a net benefit assessment for the scheduling of planned outages, i.e., permanent withdrawal of assets and unplanned outages would not be subject to assessment;

- (d) an Outage Protocol covering the consultation process and a net benefit assessment for the scheduling of planned outages and permanent withdrawal of assets - unplanned outages would not be subject to assessment; and
- (e) to take account of wealth transfers.

15.7.2 In addition, the Commission considers an alternative option could be a principles-based approach. This alternative is set out in Mighty River Power's (**MRP**) submission to the Benchmark Agreement conference¹⁴.

15.7.3 During the drafting comments period, the Commission received further comments on a principles-based approach. The Commission notes that, in addition to the continued support from MRP, Powerco also supported a principles-based approach.

15.7.4 MRP indicated that it does not consider that the proposed and principles-based approaches are mutually exclusive. Rather, MRP considers that the two approaches may be complementary. The Commission disagrees with this point and considers that the two approaches are different in terms of the requirements on Transpower and the outage planning process.

15.7.5 As the Commission has already assessed the alternative proposals in the Interconnection Rules Consultation Paper, it does not consider that these need to be reassessed. The Commission considers that the only reasonably practicable alternatives that need to be assessed against the amended and clarified proposal are the original proposal and the principles-based approach.

15.8 Assessment of proposal

15.8.1 A detailed analysis of the proposal and its alternatives is contained in Section 7.5 of the Interconnection Rules Consultation Paper. This largely continues to apply to the amended and clarified proposal.

15.8.2 As in the Interconnection Rules Consultation Paper, the cost benefit assessment of the options for the Outage Protocol is carried out separately for connection and interconnection assets.

¹⁴ See slides 8 and 9 of MRP's submission to the Benchmark Agreement conference. This is available at <http://www.electricitycommission.govt.nz/pdfs/opdev/transmis/BA/MRP.pdf>

15.9 Cost benefit analysis of the proposal against a principles-based approach

15.9.1 The Commission has separated this analysis from that set out in the following sections as this proposal relates to the underpinnings of the Outage Protocol, whereas the other sections relate to the details and implementation of the Outage Protocol.

Benefits - economic justification of outages

15.9.2 The principles-based alternative does not require Transpower to justify outages using an economic rationale.

15.9.3 The Commission considers that this is inefficient as it would allow Transpower to undertake outages that do not meet an economic test. In this case there are two costs associated with this inefficiency:

- (a) the capital of the additional work undertaken during the outage; and
- (b) the expected cost of increasing the likelihood of constraints or unserved energy.

15.9.4 The Commission considers that the proposal and principles-based alternative will achieve similar outcomes where an outage is marginally justifiable on an economic basis. The proposed net-benefit principle approach will require Transpower to schedule the outage off-peak to minimise expected fuel costs or increases in the level of expected unserved energy, and the principles-based approach implicitly assumes this and requires outages off-peak.

15.9.5 Where an outage is strongly justifiable under an economic test, the proposed net benefits principle approach would allow Transpower to undertake the outage so long as it is still economic to do so. The principles-based approach will significantly reduce the flexibility of Transpower to undertake that outage as Transpower would be required to justify the outage as being in the public's interest (with a corresponding cost benefit analysis). The Commission has concerns over how this process would work and whether it would be effective.

Benefits - maintenance costs

15.9.6 Transpower has previously communicated that it is concerned that the effect of the Outage Protocol would be to shift the timing of all outages and maintenance

work to nights and weekends. The Commission notes that the proposal may do this to some extent, but only where this is economic. However, the principles-based approach would result in significantly more outages on nights and weekends. This is because the principles-based approach:

- (a) requires that work be undertaken during these times, unless justified as being in the public's interest; and
- (b) does not allow Transpower to include costs such as the additional resource cost that would result from shifting all non-urgent outages to off-peak periods.

Costs - reduced administrative costs

15.9.7 The Commission considers that a principles-based approach would reduce administrative costs for Transpower. A principles-based approach would also reduce enforcement costs as it is easily monitored and assessed for compliance by counterparties.

Costs - predictable outcomes

15.9.8 The Commission considers that the proposal requires Transpower to develop an Outage Protocol based on net benefits principles. This will provide Transpower with flexibility to act efficiently. However, the flip-side of this is that the principles-based approach will deliver predictable outcomes – for example, outages away from peak periods.

Conclusion

15.9.9 In conclusion, the Commission considers that the efficiency benefits of the net-benefits principle approach outweigh the administrative simplicity benefits of the principles-based approach.

15.9.10 The proposal therefore has greater net benefits than the reasonably practicable alternative.

15.10 Cost benefit analysis – interconnection assets Outage Protocol

15.10.1 The Commission has considered whether it is possible to quantify the benefits and costs of the different options for managing outages. The Commission does

not consider that the costs and benefits are reasonably quantifiable due to the level of uncertainty about the level of gains available from more efficient grid operation. The Commission has, therefore, examined the benefits and costs in a qualitative way. In doing so, the Commission has considered the benefits of efficient grid operation and the costs of administering the proposed arrangements.

Benefits - Reduced cost of dispatch

- 15.10.2 The amended and clarified proposal will continue to provide incentives for the grid owner to take into account the effect on the cost of dispatch of its decision to withdraw capacity, schedule outages or to provide for the risk of unscheduled outages. The amendments to the proposal are designed to make this process easier for Transpower to administer. The amended and clarified proposal will continue to provide strong incentives for Transpower to balance the effect on the cost of dispatch of an outage compared to other costs such as maintenance. In this respect, the Commission considers that the benefits of the clarified and amended proposal have not materially changed.
- 15.10.3 The key difference between the amended and clarified proposal and the other options is the extent of the obligation on Transpower to take account of net benefits. The amended and clarified proposal allows for Transpower to carry out an assessment of net benefits commensurate with the expected impact of the outage. Where the potential impact of the outage is low, the amended proposal provides sufficient flexibility to allow Transpower not to carry out a net benefits assessment, and the compliance costs are correspondingly reduced. The key benefit of this approach is that a formal process is established to ensure that the benefits of outages outweigh the costs where there is a material impact on the cost of dispatch, while at the same time avoiding unnecessary compliance costs where the impact is immaterial.
- 15.10.4 Of all the options considered, the Commission considers that the amended and clarified proposal strikes the best balance between ensuring that the cost of dispatch is minimised overall, while imposing the minimum of additional compliance costs on Transpower.

Benefits - Reduced cost of unserved energy

- 15.10.5 Under the revised and clarified proposal, the inclusion of costs of unserved energy in the net benefit assessment continues to ensure the cost of unserved

energy is balanced against other costs such as maintenance costs or generator fuel costs. This is likely to be most relevant to withdrawal of capacity or scheduled outages which reduce the security level of a circuit.

- 15.10.6 The amended and clarified proposal will provide the strongest incentive for Transpower to balance the effect on the cost of unserved energy from an outage compared to other costs such as maintenance or generator fuel costs, without imposing unnecessary compliance costs. The amendments and clarifications to the proposal are generally aimed at achieving the same benefits as the original proposal while improving the workability of the proposal and reducing compliance costs.

Benefits - information to participants

- 15.10.7 The amended and clarified proposal will increase the information available to participants and counterparties. This information will enable participants to mitigate the cost of withdrawals of capacity or scheduled outages or changes in the scheduling of assets.

Costs - administrative cost

- 15.10.8 The proposal may increase the grid owner's administrative costs in planning and carrying out grid outages from those it currently incurs. However, these cost increases are not likely to be large, as the proposed process largely represents good electricity industry practice that an efficient grid owner would normally carry out internally anyway. In addition, the amendments and clarifications to the original proposal are designed to minimise the extent to which additional administrative costs are imposed on Transpower. As with the original proposal, it provides greater transparency around these processes.
- 15.10.9 The Commission continues to expect that most outages will not require detailed analysis and that most of the costs will relate to a small proportion of outages. The levels of analysis that will be specified in the Outage Protocol reflect this view.
- 15.10.10 The amended and clarified proposal will also impose costs on participants and counterparties in monitoring Transpower's performance and responding to consultation.

Costs - enforcement costs

- 15.10.11 The inclusion of a net benefit test in the Outage Protocol will result in some allegations of rule breaches and enforcement action taken by participants. This will increase costs for Transpower and participants.
- 15.10.12 The amended and clarified proposal is likely to have lower costs compared to the original proposal in that it somewhat reduces the scope for litigation. The options without the net benefit assessment will not incur these enforcement costs.
- 15.10.13 Enforcement costs will also be a function of the complexity of the net benefit assessment and the ease with which Transpower is able to assess the costs and benefits to participants. The clarified and amended proposal provides clarity in terms of the types of costs and benefits to be considered. In addition, Transpower and participants will have the opportunity for input into the development of the methodology for the assessment of net benefits. This process should further reduce the risk of enforcement costs being excessive.
- 15.10.14 The Commission expects that, over time, as Transpower and participants become comfortable with the application of the net benefit assessment, disputes about the net benefit assessment will diminish.
- 15.10.15 Requiring Transpower to take account of wealth transfers as a result of constraints on the market would be likely to raise enforcement costs. The impact on the market would be more difficult to estimate as the impact will depend on the bidding strategies of participants and the potential gains and losses to parties would be greater and so provide greater incentives for litigation. The Commission therefore considers that it would be inefficient and inappropriate for Transpower to consider these impacts.

Conclusion on cost benefit analysis – interconnection asset Outage Protocol

- 15.10.16 On balance, the Commission considers that the benefits from the amended and clarified proposal of more efficient grid operation outweigh the likely increased administrative and litigation costs in comparison to the original proposal considered. Consequently, the amended and clarified proposal is also likely to result in greater net benefits than all the reasonably practicable alternatives.

15.11 Cost benefit analysis – connection assets Outage Protocol

15.11.1 For connection assets, the alternative to the proposal would be for the connected party to have final decision rights on any outage. This analysis is largely unchanged from that in the original consultation and the revisions to the analysis are similar to the above assessment for interconnection assets. However, the key differences for connection assets are:

- (a) the benefits of reduced dispatch costs would be much lower for connection assets as most connection asset outages either do not affect dispatch costs (for GXP outages) or affect only one generator (for grid injection point outages); and
- (b) the administrative costs and enforcement costs would be higher as these costs are proportional to the number of outages involved and connection asset outages are more common than interconnection outages. However, each outage will have a reduced administrative cost as connection asset outages only require interaction between Transpower and the relevant counterparty. For interconnection outages, many more parties will be necessarily involved.

Conclusion on cost benefit analysis – connection asset Outage Protocol

15.11.2 As previously stated in the Interconnection Rules Consultation Paper, the Commission considers that the proposal of a net benefits test carried out by the grid owner prior to any outage will have a greater net benefits than the reasonably practicable alternatives.

15.12 Assessment against the Commission's objectives

Efficient production and delivery of electricity

15.12.1 For interconnection and connection outages (where agreement cannot be reached), the Commission considers that the amended and clarified proposal is likely to advance this objective. The proposal ensures that the grid owner accounts for the costs imposed on others in planning its interconnection equipment outages. The proposal does this by requiring Transpower to consider increased generation costs and increased security of supply costs where

appropriate. Further discussion of these issues is set out in the cost benefit analysis.

- 15.12.2 The Commission considers that the proposal best meets this objective relative to the principles-based approach. This is because the Commission considers that the proposal results in more efficient outage planning by requiring Transpower to justify outages on an economic basis.
- 15.12.3 The proposed definition of outages as only those over one minute in length meets this objective better than an all encompassing definition of outages as the proposal minimises compliance costs for Transpower.

Fair production and delivery of electricity

- 15.12.4 The Commission considers that the amended and clarified proposal is likely to advance this objective by ensuring an appropriate balance of interests between the grid owner, the generators and the consumers. This balance is created through the establishment of a transparent and economic process for planning interconnection equipment outages and connection equipment outages where parties cannot agree on an outage.
- 15.12.5 The Commission considers that the proposals and alternatives relating to the definition of outages and principles-based approach are not distinguished by this objective.

Reliable production and delivery of electricity

- 15.12.6 The amended and clarified proposal and original proposal are neutral with respect to reliable production and delivery of electricity. It is likely that, in the absence of the amendments and clarifications, the grid owner would still have adequate incentives to consider reliability in planning and carrying out interconnection equipment outages and connection equipment outages where parties cannot agree on an outage.
- 15.12.7 The Commission considers that the proposals and alternatives relating to the definition of outages and principles-based approach are not distinguished by this objective.

Summary

- 15.12.8 The Commission considers that, overall, the amended and clarified proposal meets its objectives better than the alternatives.

- 15.12.9 The Commission considers that the proposed Outage Protocol rules best meet the Commission's objectives relative to the principles-based alternative. The Commission also considers that the proposal will provide greater net benefits than the original proposal.

16. Interconnection Rules - interface with part C

- 16.1.1 This chapter discusses the Commission's revised proposals for how the proposed Interconnection Rules will interface with part C of the Rules.
- 16.1.2 The Commission's proposal is largely unchanged from that set out in the Interconnection Rules Consultation Paper.
- 16.1.3 To avoid duplication, the analysis in this section adds to that set out in the consultation paper. That is, the analysis of the proposal for the interface of the Interconnection Rules with part C of the Rules against section 172F of the Act is set out in:
- (a) Section 8 of the Interconnection Rules Consultation Paper – for the original proposal; and
 - (b) This section – for the Commission's revised proposal, which was amended as a result of the consultation process.

16.2 Submissions

- 16.2.1 All submitters supported the Commission's proposal apart from Transpower.
- 16.2.2 Transpower disagrees with the Commission's proposal as:
- (a) it considers the Commission has misunderstood how voltage support ancillary services and the AOPOs under part C of the Rules operate, and the interface with Transpower's interconnecting transformers; and
 - (b) it considers that the proposal simply repeats Transpower's existing obligations as grid owner under rule 3.1 of section III of part C.
- 16.2.3 In addition to these points, Meridian and Transpower submitted that the existing transitional arrangements under rule 2 should remain for existing assets.

16.3 The Commission's response

- 16.3.1 The Commission has not materially changed the elements of its original proposal. However, it provided a point of clarification in its Summary and Response Paper in respect of a point made by Transpower and Meridian in their submissions.
- 16.3.2 Transpower commented that the Commission appeared to have linked voltage support assets to interconnecting transformer capacity. Transpower further

noted that its static capacitor banks (which form part of Transpower's interconnecting transformers) are either ancillary services (additional to capability) or part of the contracted capacity, but could not be both. Transpower considered that the proposal simply repeated Transpower's existing obligations as grid owner under rule 3.1 of section III of part C.

16.3.3 The Commission considers that Transpower misunderstood the proposal. The proposal provides transparency surrounding Transpower's compliance with the AOPOs, does not require Transpower to provide voltage support, and does not change any of the part C obligations. The Commission considers that the proposal is still the best approach to the Interconnection Rules interface with part C.

16.4 Conclusion

16.4.1 The Commission considers that the cost benefit analysis and assessment of the proposal against the Commission's objectives in section 8.5 of the Interconnection Rules Consultation Paper is still applicable.

16.4.2 The Commission, therefore, considers that the proposal best meets the Commission's objectives.

17. Interconnection Rules - compensation and liability

17.1.1 This section discusses the Commission's final proposal for the compensation and liability provision for breaches of the Interconnection Rules and the Outage Protocol. This discussion provides interested parties with further information and clarification of the Commission's proposal, but does not affect the Commission's previous analysis.

17.1.2 The Commission's proposal is the same as that set out in the Interconnection Rules Consultation Paper. That is, the analysis of the compensation and liability proposal for the Interconnection Rules and the Outage Protocol against Section 172F of the Act is set out in section 9 of the Interconnection Rules Consultation Paper for the original proposal (which includes the direct cost approach and the capping of liabilities).

17.2 Submissions

17.2.1 Given the extent to which submitters commented on the Commission's proposal in respect of compensation and liability relating to breaches of the Interconnection Rules and the Outage Protocol, it is useful to briefly outline the key issues raised by submitters. While some submitters expressed their outright opposition to the proposal, other submitters' key concerns related to the following aspects of the proposal:

- (a) the proposed liability caps are different to those that would apply under the Benchmark agreement;
- (b) the process of the Rulings Panel determining liability for breach events, and the proposed additional criteria that the Rulings Panel would need to take into account when determining compensation for breach of the Outage Protocol;
- (c) the requirement for Transpower to operate the grid consistent with good electricity industry practice;
- (d) the efficiency of the liability mechanism and allocation of risk;
- (e) free rider issues relating to participants other than counterparties being able to allege a breach of the Outage Protocol; and
- (f) abatement of transmission charges for extended supply interruptions.

17.3 The Commission's response

- 17.3.1 The Commission has not changed the main elements of its original proposal. However, it provided further explanation on some issues in its Summary and Response Paper. The following is a brief summary of the major points. Interested parties should refer for full details to the Commission's provisional response in Section 7.9 of the Summary and Response Paper.

USG approach

- 17.3.2 The Commission notes that there continues to be some support for further exploring the option of a USG as a potential means for making the availability and reliability measures enforceable and subject to a compensation liability regime. However, the Commission considers that there are complex issues surrounding a USG which require careful analysis and investigation. The Commission continues to consider that it would be impractical to carry this out before finalising the Benchmark Agreement and Interconnection Rules in mid 2007. While the Commission continues to consider that the USG is not a practicable option now, the Commission proposes to consider the merits of the USG after the Interconnection Rules and the Benchmark Agreement have been implemented.
- 17.3.3 The Commission intends to complete a review the feasibility of the USG approach within two years after the Benchmark Agreement comes into force (1 April 2008).

Liability under the Interconnection Rules

- 17.3.4 There were a significant number of comments on the proposal to align liability under the Interconnection Rules with the liability provisions for a breach of part C of the Rules. Many submitters expressed concern about the inconsistency between the proposed approach in respect of liability under the Interconnection Rules and the approach proposed for the Benchmark Agreement.
- 17.3.5 The Commission continues to consider that the difference in liability provisions between the Interconnection Rules and the Benchmark Agreement is desirable and appropriate. This is because the purpose of the provisions under the Rules is to incentivise compliance with the Rules whereas the liability provisions under the Benchmark Agreement are intended to compensate parties for direct losses that may arise from Transpower breaching the agreement.

- 17.3.6 Other submitters commented on the liability caps and considered that they are too low. The Commission is of the view that the lower liability caps under the Rules are appropriate, given the uncertainty surrounding liability for indirect costs.

Use of the Rulings Panel to determine liability under the Interconnection Rules and Outage Protocol

- 17.3.7 The Commission has noted and acknowledged a range of submissions expressing reservations about the proposal that the Rulings Panel would determine liability, and that the Rulings Panel would be given additional factors to consider when determining liability (over and above the existing factors in regulation 114 of the Regulations).
- 17.3.8 In respect of the Rulings Panel determining liability, the Commission notes that it is not aware of significant concerns surrounding the costs of the rule breach process as a whole. It therefore considers that using the Rulings Panel to determine liability is appropriate and consistent with the approach for all other rules. A process of negotiation would also be expected to involve significant costs.
- 17.3.9 Some submitters expressed concerns surrounding the appropriateness of the additional principles proposed in the changes to the Regulations for the Rulings Panel to consider when determining liability. The Commission continues to consider that the efficient allocation of risk, as proposed in those changes, is important and appropriate because it provides the Rulings Panel with a clear direction to focus on the efficiency implications of compensation.

Double jeopardy

- 17.3.10 Transpower stated that liability under the Interconnection Rules was additional to liability under the Benchmark Agreement. The Commission disagrees with this statement if it is intended to imply that liability could arise for the same matter under the Benchmark Agreement and the Interconnection Rules. The Commission is of the view that it is not possible for any liability in relation to a connection asset to arise for the same matter under the Interconnection Rules in addition to liability under the Benchmark Agreement.

Force majeure

- 17.3.11 Transpower submitted that the proposed Interconnection Rules should provide for *force majeure* events. The Commission does not consider that an explicit *force majeure* clause is necessary.
- 17.3.12 Transpower's obligations under the proposed Interconnection Rules relate to compliance with the Outage Protocol covering planned and unplanned outages. A *force majeure* event, due to circumstances beyond Transpower's control, is treated as an unplanned outage. It is anticipated that Transpower's obligations under the Outage Protocol for unplanned outages would be limited to being reasonably prepared, including the holding of an efficient amount of spares, so it can respond to the unplanned outage. Therefore, *force majeure* events will be covered by the Outage Protocol rules and it is not necessary to include further provisions in the Interconnection Rules.
- 17.4 Amendments to the Commission's original proposal
- 17.4.1 The Commission accepts Transpower's submission that it should not be responsible for operation of the grid and intends to amend its proposal to replace the words "operated the grid" with the words "maintained the grid" when referring to Transpower's obligations under the Outage Protocol.
- 17.4.2 This change falls under the interconnection service measures section.
- 17.5 Conclusion
- 17.5.1 The Commission's proposal is unchanged from that previously consulted on. Therefore, the relevant 172F analysis is set out in Section 9.5 of the Interconnection Rules Consultation Paper.

18. Interconnection Rules - consistency with the GRS

18.1.1 This chapter discusses the Commission's proposal to require Transpower to investigate options where the grid is expected not to meet the GRS. The proposal is largely unchanged from that set out in section 10 of the Interconnection Rules Consultation Paper. To avoid duplication, the analysis in this section adds to that set out in the consultation paper.

18.2 Statement of proposal

18.2.1 The Commission proposes that, where the power system is not expected to meet the n-1 criterion over the next five years at a GXP, and that this is due to an interconnection asset, the Interconnection Rules require Transpower to investigate whether or not the GRS is being met and, if not, consider all options for ensuring that the GRS can be met. If an investment is required to meet the GRS, Transpower will be required to submit a GUP proposing the investment within six months. If Transpower considers an investment is not necessary, Transpower will be required to publish the reasons for this and any alternative measures Transpower proposes to undertake.

18.2.2 Where a proposed investment submitted as a result this rule is approved, then Transpower would be required to undertake the investment, either prior to the grid falling below the GRS or as soon as reasonably practicable.

18.3 Submissions

18.3.1 There was broad support for the Commission's approach to consistency with the GRS in the Interconnection Rules. Five submitters agreed with the proposal while another five submitters gave their qualified support.

18.3.2 Transpower objected to the requirement for it to make an interconnection investment to meet the GRS, where this investment has been approved by the Commission. Transpower argued that this was contrary to the intent of the investment proposal process under part F and may in some cases be impractical, for example, where circumstances change. Transpower also considered that the requirement to propose an investment within six months is inappropriate.

18.4 The Commission's response

18.4.1 In light of the broad support for the GRS proposal for interconnection assets, the Commission intends to retain the approach it has proposed in the Interconnection Rules Consultation Paper.

18.4.2 The Commission notes Transpower's objection to the requirement to undertake approved investment. However, the Commission considers that this requirement is necessary to provide the industry and end users with the assurance that investment that is necessary to maintain the GRS will take place. Consequently, the Commission intends to retain this aspect of the proposal.

18.4.3 The Commission notes Transpower's point in relation to the timeframe for proposing an investment. The Commission has revised its proposal to allow the Electricity Commission Board to approve a longer timeframe if it considers it is appropriate.

18.5 Conclusion

18.5.1 The Commission considers that the cost benefit analysis and assessment of the proposal against the Commission's objectives in section 10.6 of the Interconnection Rules Consultation Paper is still applicable. The Commission has revised the drafting of this requirement to allow the Board to agree to a longer timeframe if it is appropriate. This addresses Transpower's concerns in relation to the six month timeframe.

19. Interconnection Rules - economic investments

19.1.1 This chapter discusses the Commission's proposal to require Transpower to identify and propose economic investments. The proposal is largely unchanged from that set out in the Interconnection Rules Consultation Paper.

19.1.2 To avoid duplication, the analysis in this section adds to that set out in the consultation paper. The analysis for the proposal relating to economic investments against section 172F of the Act is, therefore, set out in:

- (a) Section 11 of the Interconnection Rules Consultation Paper; and
- (b) this section for the clarifications proposed by the Commission.

19.2 Background

19.2.1 Under rule 12A of section III of part F, Transpower is required to publish a GRR setting out whether the power system will meet n-1 criterion over the next ten years. However, there are no requirements on Transpower to provide information in relation to economic investments.

19.2.2 The nature of the GIT for economic investment means that Transpower will often be best placed to estimate the benefits and costs of potential economic investments. Consequently, the Commission's proposal would require Transpower to identify and propose economic investments.

19.3 Submissions

19.3.1 The Commission received 11 submissions on this issue. Most submitters supported the Commission's proposal.

19.3.2 Meridian and Transpower support the concept of identifying and reporting on possible economic investment in interconnection assets. However, Meridian questions whether implementation should be based on the most recent Statement of Opportunities (**SOO**) scenarios and whether a special report is required, particularly within such a short timeframe of the SOO being published. Transpower questioned the need for a special report and suggests that it could provide the required information in its Annual Planning Report.

19.3.3 Unison and Vector disagree with the Commission's proposal. Unison considers that the status quo in relation to economic investment is adequate and the

proposal may work to undermine the intended market mechanisms. It believes it would be unfair to place the entire responsibility for analysing economic investment on Transpower. Further, if parties wish to undertake economic investment, the current process will adequately facilitate the procurement of information and analysis.

19.3.4 Like Unison, Vector submits that there seems to be no point in requiring a separate process for economic investments because the Commission's proposal for consistency with the GRS already requires economic investments to be identified and included in a GUP.

19.4 The Commission's response

19.4.1 In response to these submissions, the Commission proposes the following changes to its proposal:

- (a) Transpower will be required to use the SOO scenarios and to provide any other information that it considers may be useful to the Board in the draft Interconnection Rules in its report on economic investment (also described as the Grid Economic Investment Report (**GEIR**)); and
- (b) the relevant rules will be drafted to ensure that Transpower is able to fulfil the requirement to identify and propose economic investments as part of, or with, its Annual Planning Report.

19.4.2 The Commission considers that these changes to the proposal will enhance the operation of the overall proposal.

19.4.3 The report on economic investment will be similar to the GRR, which is required to use the SOO scenarios. Requiring that the GEIR also be based on the SOO scenarios will ensure consistency across the various grid planning documents, thereby improving the quality the overall suite of grid planning documents provide. This consistency also aids users in understanding the information provided.

19.4.4 Providing Transpower with the flexibility to comply with its obligation to provide a report on economic investments as part of, or with, its Annual Planning Report is likely to reduce the cost of preparing the report compared to the previous proposal where a separate report would have been required. It is uncertain, however, by how much costs will be reduced.

19.5 Conclusion

- 19.5.1 The Commission therefore considers that the amendment to its original proposal will result in improvements in quality of the report on economic investment and reductions in compliance costs improving the benefits and reducing the costs of the overall proposal.
- 19.5.2 The Commission also considers the amendments to the proposal will improve fairness by providing better information to other participants to enable them to assess the merits of potential economic investments in the grid. The burden on the grid owner is potentially reduced by the amendments. The Commission considers that the benefits of the amendments support the Commission's objective of fair provision and delivery of electricity.
- 19.5.3 The Commission considers that the analysis against the Commission's objectives set out in section 11.6 of the Interconnection Rules Consultation Paper is still applicable. The amendments will improve the net benefits of the proposal, as compared to the reasonably practicable alternative. The Commission, therefore, considers that the amended proposal best meets its objectives.

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