COMMERCE COMMISSION

Regulation of Electricity Lines Businesses

Targeted Control Regime

Threshold Reset 2009

Methodology Paper: Update

25 June 2008

COMMERCE COMMISSION

Networks Performance Branch

Commerce Commission

Wellington

NEW ZEALAND

June 2008

EXECUTIVE SUMMARY

Background

E.1 Under Part 4A of the Commerce Act 1986 ("the Act"), the Commerce Commission ("the Commission") is required to set thresholds for the declaration of control of electricity lines businesses. Electricity lines businesses comprise the 28 electricity distribution businesses ("EDB") and Transpower. The existing thresholds applicable to EDBs were put in place from 1 April 2004. The Commission proposes to reset the thresholds from 1 April 2009.

E.2 In July 2007 the Commission published a paper[1] ("Process Paper") outlining a process to reset the existing thresholds. The Process Paper outlined the various stages and the indicative timetable the Commission intended to follow during the threshold reset. On 19 December 2007 the Commission published a second paper[2] ("Discussion Paper"). The Discussion Paper represented the first substantive consultative step of the reset and outlined the Commission's initial views on the issues relevant in resetting the thresholds. The Discussion Paper requested submissions on any issue relevant to the reset.

E.3 The Discussion Paper signalled the Commission's intention to publish a Methodology Paper in May/June 2008. It was initially intended that the Methodology Paper would include proposed options for the detailed form of thresholds and preliminary indications of the range of threshold levels. In light of submissions and developments in other policy areas, the Commission has decided to adjust the focus and emphasis of its next paper until further research has been completed, and to rename the paper to reflect this change in focus. The Commission intends to set out the detailed form of thresholds and preliminary indications on the range of threshold levels in September 2008 in its Initial Decisions Paper. No change is envisaged to the title of the next document. This minor change in process will not delay the timetable for the threshold reset.

Overall Regulatory Framework

E.4 The Commission considers that it is appropriate to proceed with the reset with a view to having new arrangements in place from 1 April 2009. The existing arrangements were put in place from 1 April 2004 and the Commission considers that five years is an appropriate length for the regulatory period. It strikes a reasonable balance between the interests of regulated businesses and consumers as it is a sufficient period to maintain incentives for firms to improve efficiency, and it enables regulators to bring prices back into line with costs in a timely manner where businesses exceed efficiency expectations. The Commission notes that, for these reasons, the use of five-year regulatory periods is common in overseas jurisdictions.

E.5 In light of submissions and a need for further analysis, the Commission has initiated further research. The Commission intends to complete this research before setting out

---

1 Commerce Commission, *Process for Resetting the Thresholds for Control*, 30 July 2007.
2 Commerce Commission, *Threshold Reset 2009: Discussion Paper*, 19 December 2007.

its initial decisions and methodologies in September 2008. This adjustment to the timetable will enable the Commission to analyse the impact of Information Disclosure data for the year ending 31 March 2007 and to further assess the relevant merits of different asset valuation methods and their implications for the threshold reset.

Overall Form of Thresholds

E.6 The Commission considers that the thresholds should comprise both price and quality components as these factors are most relevant to the long-term interests of consumers. The Commission proposes the following overall form for the reset thresholds:

- the price-path threshold should be based on the Consumer Price Index ("CPI") minus an efficiency factor defined as an X-factor, i.e. CPI–X;
- the quality threshold should be amended to consist of a single criterion based on reliability; and
- the consumer engagement criterion should be transferred to the Information Disclosure Requirements.

Efficient Operation of EDBs

E.7 The Commission is of the view that productivity and profitability both remain relevant in promoting the aims of the Purpose Statement[3] and the associated proposed Regulatory Framework and Implementation Principles.

E.8 The Commission considers that a B-factor, based on aggregate productivity and calculated using Total Factor Productivity ("TFP") analysis, should be retained in the new price-path threshold. There are a number of issues to be considered and resolved before the final TFP is calculated for the industry, including the incorporation of the most recent Information Disclosure data. Results of this analysis will be included in the Initial Decisions Paper.

E.9 The Commission has considered submissions on the possible retention of relative productivity and relative profitability components in the price-path. It is the Commission's preliminary view that the relative productivity performance of the EDBs should be taken into account. The Commission considers that a factor based on relative productivity encourages EDBs to move towards operating at the efficient frontier and promote overall economic efficiency. The Commission acknowledges that further research and analysis is required to ensure the basis of the Multilateral Total Factor Productivity ("MTFP") analysis is sufficiently robust.

E.10 With respect to profitability, the Commission considers that an adjustment to prices in the first year of the regulatory period (P_0 adjustment) based on partial building blocks and with sufficiently accurate information could help promote the aims of the Purpose Statement. As such, the Commission is of the preliminary view that a P_0 adjustment should be considered further for inclusion in the price-path threshold. The Commission considers that if a P_0 adjustment is used it should only address profitability levels and not efficiency differences between EDBs. The Commission recognises that the

---

3 As set out in section 57E of the Act.

derivation of appropriate P_0 values requires consistent information including appropriate data on revenue, operating costs, asset values and depreciation. The Commission proposes to undertake further research into the use of a P_0 adjustment based on partial building blocks and will include the results of this analysis in its Initial Decisions Paper.

Network Investment

E.11 The Commission considers that EDBs in aggregate do not face an investment 'wall of wire'. However, the Commission recognises that a number of EDBs face increasing investment requirements in the coming years.

E.12 The Commission considers that the introduction of a specific incentive factor, an I-factor, to the price-path may be the most appropriate way to address significant investment requirements of EDBs. However, the investment requirements of EDBs for the period until 2014 would not appear to merit the introduction of an I-factor from 2009. The Commission does not therefore propose to develop I-factor proposals further during this reset process but considers that they should be developed in preparation for the next threshold reset in 2014. Where EDBs do have additional investment requirements during the 2009-2014 regulatory period, the Commission proposes that these should be addressed through customised thresholds. In the Commission's view, customised thresholds are the most appropriate way to address business-specific investment needs. The Commission proposes to develop the basis of those arrangements in consultation with industry in 2009 with a view to implementation during 2010.

Service Quality

E.13 The Commission is of the view that it is appropriate to set a quality threshold to ensure EDBs achieve appropriate performance targets while complying with the price-path threshold. The Commission considers it appropriate to provide a number of EDBs with incentives to improve their existing reliability performance. However, the Commission considers that submissions have raised a number of valid concerns regarding both the use of peer groups and the appropriate levels of improvement that should be required and whether these reflect consumers' preferences. The Commission considers that peer groups may provide the best means by which to improve quality performance incentives but that additional work is required in order to reach a view as to how these peer groups might be set (or whether indeed peer-grouping is the best means of incentivising EDBs to improve their reliability, when a reduction in the threshold might provide more of an incentive).

E.14 Before reaching its initial decisions, the Commission intends to undertake further research to determine how historic performance and peer-group-based data may be used to incentivise service quality improvements. Factors to consider include the availability of data, the potential level of improvement required to justify an S-factor and the possible levels of the S-factor. The addition of an additional component (S-factor) to the price-path is likely to provide appropriate incentives to invest efficiently to improve service quality, particularly if used alongside a P_0 adjustment.

E.15 The Commission proposes introducing three refinements to the quality threshold. Firstly, the Commission proposes that the Beta Method be used to normalise reliability data for extreme events. Secondly, the Commission proposes to employ a three-year moving average to address the normal variability of data. Thirdly, the Commission proposes that separate quality thresholds be applied for both non-contiguous networks and for networks that have ownership/beneficiary differences.

E.16 The Discussion Paper considered the introduction of additional service quality measures to the thresholds. However, the Commission recognises that a current lack of readily available information makes setting related service quality targets difficult. Therefore, the Commission does not consider that the introduction of additional service quality incentives would be appropriate at this stage. The Commission proposes that requirements to report additional service quality measures be considered within the Information Disclosure Requirements work-stream, together with requirements to report network performance at a disaggregated level.

Refinements

E.17 In its Discussion Paper, the Commission outlined a number of areas where refinements to the existing arrangements may be introduced. Having considered submissions, the Commission does not propose to bring forward any changes to the existing definition of excluded services or to put forward proposals for granting exemptions from compliance assessments. As regards other potential refinements, the Commission's preliminary views are set out below.

E.18 The Commission proposes to consider the treatment of transmission pass-through costs and the potential for unbundling transmission revenues and Transpower charges from the price-path formula. In addition, the Commission will consider whether the Information Disclosure Requirements can be amended to seek a detailed break-down of system losses by time and by area.

E.19 The Commission proposes to initiate a review of its Assessment and Inquiry Guidelines in early 2009 with a view to finalising updated Guidelines prior to the initial assessment of the reset thresholds. The Commission's preliminary view is that one aim of this review should be to improve the predictability of breaches by reducing the scope for 'technical breaches'.

E.20 The Commission's preliminary view is that customised thresholds would be an appropriate approach to provide for exceptional investment requirements reflecting business specific circumstances.

Way Forward

E.21 The Commission intends to publish an Initial Decisions Paper in September 2008. It is intended that that paper will set out a definitive view on all areas of the threshold reset and that, reflecting more recent data and the results of the proposed research, it will provide a preliminary indication of the range of threshold levels. The Commission intends to publish its Final Decision Paper in December 2008, to allow for implementation of new thresholds on 1 April 2009.

Table of Contents

EXECUTIVE SUMMARY I

CHAPTER 1: INTRODUCTION 1

1.1 Background 1
1.2 Purpose of this Paper 1
1.3 Submissions 2

CHAPTER 2: OVERALL FRAMEWORK 3

2.1 Introduction 3
2.2 The Commerce Act 3
2.3 Threshold Reset Process 7
2.4 Regulatory Principles 11
2.5 Form of Thresholds 15

CHAPTER 3: EFFICIENT OPERATION OF EDBS 20

3.1 Introduction 20
3.2 Aggregate productivity 21
3.3 Relative Productivity 23
3.4 Profitability 25

CHAPTER 4: INVESTMENT INCENTIVES 31

4.1 Introduction 31
4.2 Investment drivers 32
4.3 Investment requirements 36
4.4 Incentivising efficient investment 39
4.5 Investment accountability 43

CHAPTER 5: QUALITY 46

5.1 Introduction 46
5.2 Objective of the Quality threshold 47
5.3 Benchmarking 49
5.4 Threshold levels 50
5.5 Price-Quality Trade-Offs 52
5.6 Refinements to data 54
5.7 Further Quality Incentives 58

CHAPTER 6: REFINEMENTS 61

6.1 Introduction 61
6.2 Pass-through Costs 62
6.3 Customised Thresholds 64
6.4 Energy Efficiency 66
6.5 Assessment and Inquiry Guidelines 70
6.6 Predictability of Breaches 71
6.7 Assessment Exemptions 73
6.8 Excluded services 73

CHAPTER 7: IN CONCLUSION 75

APPENDIX 1: GLOSSARY 76

CHAPTER 1: INTRODUCTION

1 This chapter introduces this document ("Methodology Paper: Update") and describes its purpose and role within the overall reset process. It also sets out a description of the consultation process.

1.1 BACKGROUND

2 Under Part 4A of the Commerce Act 1986 ("the Act"), the Commission is required to set thresholds for the declaration of control of lines businesses. The Commission first set thresholds ("initial thresholds") applicable to electricity distribution businesses ("EDB") from 6 June 2003. These were reset on 1 April 2004 when the existing thresholds (also referred to as the "revised thresholds") were put in place. The Commission proposes to reset the thresholds from 1 April 2009, to apply until 31 March 2014.

3 On 30 July 2007 the Commission published a paper[4] ("Process Paper") outlining a process and indicative timetable to reset the existing EDB thresholds. On 19 December 2007 the Commission published a second paper[5] ("Discussion Paper"). The Discussion Paper represented the first substantive consultative step in the threshold reset. It set out the initial views of the Commission on issues considered to be relevant in determining a preferred methodology for resetting the thresholds. It invited interested parties to give their views on those issues and to highlight any additional issues they considered relevant.

4 Alongside its Discussion Paper, the Commission published six consultant reports[6] which informed its initial research set out in the paper. The Commission sought views on these reports as part of the overall consultative package. Submissions were sought by 18 February 2008. The Commission received fifteen submissions to the Discussion Paper. Three of the submissions also included supporting reports. None of the submissions was marked as confidential. All are available on the Commission's website.

1.2 PURPOSE OF THIS PAPER

5 The purpose of this paper is to set out the Commission's preliminary views on the form and components of the EDB thresholds, having taken into consideration submissions to the Discussion Paper.

6 In some areas of this paper, the Commission sets out its preliminary views on certain components of the thresholds. However, there are a number of other areas where the Commission is continuing to undertake analysis and consider submissions. These areas will be addressed fully with an appropriate level of detail in the Initial Decision Paper which the Commission proposes to publish in September 2008.

---

4 Commerce Commission, *Process for Resetting the Thresholds for Control*, 30 July 2007.
5 Commerce Commission, *Threshold Reset 2009: Discussion Paper*, 19 December 2007.
6 These are available on the Commission's website at www.comcom.govt.nz

7 To assist parties in reviewing this paper, the Commission has employed broadly the same structure as in its Discussion Paper. Individual chapters consider the price-path, investment requirements, quality threshold and a range of possible refinements to the thresholds. The general structure of these sections is:

- a brief recap of the Discussion Paper proposal in the area;
- a discussion of submissions and the Commission's response; and
- a summary of the Commission's views having considered submissions.

8 Except where indicated otherwise, the views of the Commission contained in this paper are its preliminary views and do not represent decisions. The remainder of this paper is structured as follows.

Table 1 Structure of Methodology Paper: Update

Chapter 2	Outlines the regulatory framework underpinning the threshold arrangements and the Commission's preliminary views on the overall form of thresholds and Regulatory Principles.
Chapter 3	Commission's preliminary views on the form and components of the price-path threshold.
Chapter 4	Commission's preliminary views on the requirement for a specific provision within the thresholds to incentivise network investment.
Chapter 5	Commission's preliminary views on the form and components of the quality threshold.
Chapter 6	Commission's preliminary views on possible refinements to the threshold arrangements.
Appendices	Further information.

1.3 SUBMISSIONS

9 The Commission is not inviting submissions on this paper (Methodology Paper: Update). Correspondence received will be considered as part of the consultation following the publication of the Commission's Initial Decisions Paper, scheduled for September 2008.

CHAPTER 2: OVERALL FRAMEWORK

10 This chapter includes the regulatory framework discussion and considers submissions on the proposed Regulatory Framework and Implementation Principles ("Regulatory Principles") and the overall form of thresholds. It also provides an update of the Commission's proposed process for resetting the thresholds.

2.1 INTRODUCTION

11 The Commission, in its Discussion Paper, outlined the regulatory framework underpinning the threshold arrangements and presented the Commission's initial views on the Regulatory Principles to be used when assessing threshold options and the overall form of thresholds.

2.1.1 Summary of Preliminary Views

12 The Commission's preliminary views on the regulatory framework and overall form of the thresholds are:

- to proceed with the reset to put in place new thresholds from 1 April 2009;
- to change the emphasis of this Paper and hold over a number of preliminary views, in particular regarding the price-path, until the Initial Decisions Paper;
- to make no changes to its proposed Regulatory Principles, drafted to reflect the aims of the overall regulatory framework and the key elements of best regulatory practice, on which to assess the threshold options;
- that the overall arrangements should comprise a price-path threshold, based on CPI-X, in conjunction with an updated quality threshold consisting of a single criterion based on reliability; and
- that the consumer engagement criterion should be transferred to the Information Disclosure Requirements.

13 These preliminary views are discussed further in the following sections: threshold reset process (section 2.3), Regulatory Principles (section 2.4), and overall form of thresholds (section 2.5). Before considering these areas, section 2.2 summarises the relevant components of the regulatory framework.

2.2 THE COMMERCE ACT

14 The Commerce Act came into force on 1 May 1986. A number of sections of the Act are relevant to resetting thresholds for EDBs.

2.2.1 Part 4A

15 Part 4A of the Act came into effect on 8 August 2001 and, among other things, requires the Commission to implement a targeted control regime for the regulation of electricity lines businesses, namely the 28 EDBs and Transpower. Part 4A has a number of sections that apply to setting thresholds. These are discussed below.

The Purpose Statement (s 57E)

16 The purpose of the targeted control regime is set out in s 57E ("Purpose Statement"). It states that:

> *"The purpose of this subpart is to promote the efficient operation of markets directly related to electricity distribution and transmission services through targeted control for the long-term benefit of consumers by ensuring that suppliers:*
>
> *(a) are limited in their ability to extract excessive profits; and*
>
> *(b) face strong incentives to improve efficiency and provide services at a quality that reflects consumer demands; and*
>
> *(c) share the benefits of efficiency gains with consumers, including through lower prices."*

17 The Purpose Statement may be broken into three parts:

i. the statement of purpose; to promote the efficient operation of markets directly related to electricity distribution services.

ii. the means of achieving that purpose; through targeted control for the long term benefit of consumers.

iii. the amplification of that means, in the form of ensuring that the objectives set out in paragraphs (a) to (c) are achieved.7

18 Section 57E(a) to (c) have been "identified by Parliament as central aspects of the long-term interests of consumers and are central, though not exclusive, goals for the Commission in the performance of its duties under subpart 1 of Part 4A".[8]

19 Under section 57E(a), the Commission aims to ensure that lines businesses are limited in their ability to extract excessive profits. In other words, the aim is to limit the ability of lines businesses to earn greater than normal profits (after allowing for the degree of risk involved).

20 Under section 57E(b) the Commission aims to ensure that lines businesses do not incur unnecessary or wasteful costs, and make appropriate trade-offs between increased quality and cost. Expenditure should be restricted to meeting quality standards required by consumers.

21 Under section 57E(c) the Commission aims to ensure that efficiency gains, when achieved, are shared with consumers. Implicit in 'sharing' is that the EDBs can retain some of the gain for a period of time. Justice Wild observed that "the sharing could take the form of lower prices or of improved quality of service, or a combination of the two".[9]

22 The Commission considers that, in promoting the efficient operation of markets, there are three relevant dimensions of efficiency.[10] These are:

---

7 *Unison Networks Limited v The Commerce Commission & Powerco Limited*, Unreported, High Court (Wild J), Wellington, CIV 2004 485 960, 28 November 2005, paras [110] – [112].

8 Ibid, para [59].

9 Ibid para [60]. Justice Wild's observations in relation to section 57E were not disturbed by the Supreme Court in *Unison Networks Limited* v *Commerce Commission*, SC/12/2007, 10 September 2007.

10 Commerce Commission, *Regulation of Electricity Lines Businesses: Discussion Paper*, March 2002.

- allocative efficiency – where a business prices its services to reflect the efficient costs of supplying those services, thereby earning normal returns (after allowing for the degree of risk involved);
- productive efficiency – where a business produces services at the desired quality at minimum cost; and
- dynamic efficiency – where a business has the appropriate incentives to invest, innovate and improve the range and quality of services, increase productivity, and lower costs over time.

Targeted Control Regime

23 Part 4A establishes a targeted control regime for all EDBs. Unlike the approach to regulating electricity lines businesses commonly adopted in overseas jurisdictions, in New Zealand such businesses are not potentially subject to control unless they have breached one or more performance thresholds set by the Commission.

24 There are three key steps in implementing the targeted control regime and achieving the objectives set out above. The first step is to set the thresholds for declaration of control. The process for setting thresholds is set out in s 57G, as:

> *"The Commission must, as soon as practicable after the commencement of this subpart, and may from time to time –*
>
> *(a) consult with participants in the electricity distribution and transmission markets and with consumers as to possible thresholds for the declaration of control in relation to large electricity lines businesses; and*
>
> *(b) set thresholds for the declaration of control in relation to large electricity lines businesses."*

25 The second step requires the Commission to assess compliance with the thresholds and identify whether any EDB is in breach of the thresholds. Section 57H sets out the process the Commission must follow when making these assessments.

26 The third step requires the Commission to work through a process for deciding on whether or not to declare control (s 57H and s 57I). The Commission terms this determination process a "post-breach inquiry".

27 These three steps, together with Information Disclosure in subpart 3 of Part 4A allow the Commission to achieve the purpose in Part 4A.

2.2.2 Section 26 and Government Policy

28 Section 26 of the Act requires the Commission to have regard to Government economic policy – Government policy statements ("GPS") – as transmitted in writing to it by the Minister of Commerce, when exercising its powers under the Act. Section 26 provides:

> *i) "In the exercise of its powers under… this Act, the Commission shall have regard to the economic policies of the Government as transmitted in writing from time to time to the Commission by the Minister.*
>
> *ii) The Minister shall cause every statement of economic policy transmitted to the Commission under subsection (1) of this section to be published in the Gazette and laid before Parliament as soon as practicable after so transmitting it.*
>
> *iii) For the avoidance of doubt, a statement of economic policy transmitted to the Commission under this section is not a direction for the purposes of Part 3 of the Crown Entities Act 2004."*

29 The Minister has transmitted two such statements of economic policy to the Commission pursuant to s 26 of the Act: one concerning electricity governance and another concerning infrastructure investment incentives. The Commission has had, and will continue to have, regard to these statements of economic policy in exercising its powers in resetting the thresholds.

30 The meaning of s 26 of the Act was considered by the Commission in *Re NZ Kiwifruit Exporters Assn (Inc)/NZ Kiwifruit Coolstorers Assn (Inc)* [(1989) 2 NZBLC (Com) 104,485] and by the High Court in *NZ Co-op Dairy Co Ltd v Commerce Commission* [[1992] 1 NZLR 601]. In the Kiwifruit case, the Commission stated (at page 104):

> *"...having regard to the general policy discretion in the Act to promote competition s26 may be used to advise the Commission of Government policy or policies or to be more specific in relation thereto. It is not to influence or determine the decisions which the Commission must make. Thus, fully preserving the discretions given to the Commission in the Act, the Commission is required only to have regard to such statements in reaching its decisions. The Oxford Dictionary defines the word 'regard' as meaning 'attention, heed and care'."*

31 In the High Court case in *NZ Co-op Dairy Co* (pages 612 and 613), the Court observed:

> *"As with any other evidence it is for the tribunal to assess the weight to be given to each item of evidence and in the case of a statement of this kind, which in our view is simply an evidential statement of Government policy - it is certainly not a direction - it remains for the tribunal to assess the weight to be given to it as an expression of official perception of, in this case, the public benefit. We do not think there is any magic in the words 'have regard to'. They mean no more than they say. The tribunal may not ignore the statement. It must be given genuine attention and thought, and such weight as the tribunal considers appropriate. But having done that the tribunal is entitled to conclude it is not of sufficient significance either alone or together with other matters to outweigh other contrary considerations which it must take into account in accordance with its statutory function: NZ Fishing Industry Association v MAF [1988] 1 NZLR 544, at p 566, Ishak v Thowfeek [1968] 1 WLR 1718 (PC), at p 1725. In the end, however weighty the statement may be as an expression of considered Government policy, it does not have any legislative effect to vary the nature of the duties which the Tribunal must carry out."*

GPS on Electricity Governance

32 On 29 October 2004, the Government issued the GPS in relation to electricity governance. The GPS has been updated twice: first in October 2006, and more recently in May 2008 (the May 2008 GPS)[11]. The principal objectives of the May 2008 GPS remain, as before, to:

- ensure that electricity is produced and delivered to all classes of consumers in an efficient, fair, reliable and environmentally sustainable manner; and
- promote and facilitate the efficient use of electricity.

33 The GPS has been revised and updated to take into account the New Zealand Energy Strategy[12] (NZES), updated New Zealand Energy Efficiency and Conservation Strategy, and changes to security of supply policy following a review of reserve energy policy. The NZES is a package of initiatives that the Government is introducing to advance sustainability and economic transformation, and to help New Zealand respond to climate change.

---

11 Ministry of Economic Development, *Government Policy Statement on Electricity Governance*, May 2008.

12 New Zealand Government, *New Zealand Energy Strategy to 2050: Towards a sustainable, low emissions*, October 2007.

GPS on Infrastructure Investment Incentives

34 On 7 August 2006, the Government issued the Commission with a GPS relating to infrastructure investment incentives faced by regulated businesses (the August 2006 GPS). Clause 7 of the GPS sets out the following economic policy objectives:

> *"The Government's economic policy objective is that regulated businesses have incentives to invest in replacement, upgraded and new infrastructure and in related businesses for the long term benefit of consumers. The Government considers that this objective will be achieved by:*
>
> *a) regulatory stability, transparency and certainty giving businesses the confidence to make long-life investments;*
>
> *b) regulated rates of return being commercially realistic and taking full account of the long-term risks to consumers of underinvestment in basic infrastructure; and*
>
> *c) regulated businesses being confident they will not be disadvantaged in their regulated businesses if they invest in other infrastructure and services."*

35 In clause 8 of the August 2006 GPS, the Government considers it to be important for regulatory control to ensure that:

> *"a) the consumers of regulated businesses are not disadvantaged by the investments of regulated businesses in other infrastructure and services;*
>
> *b) businesses are held accountable for making investments in that business where those investments have been provided for in regulated revenues and prices; and*
>
> *c) regulated businesses provide infrastructure at the quality required by consumers at an efficient price."*

36 The Commission has carefully assessed and considered each relevant statement in the August 2006 GPS and the May 2008 GPS for the purposes of drafting this paper in conjunction with the considerations it must take into account in accordance with its statutory functions and powers. The Commission considers that it has given proper and genuine attention to each of these GPSs in setting out its views in this paper.

2.3 THRESHOLD RESET PROCESS

37 This section discusses submissions on the proposed threshold reset process included in the Discussion Paper.

2.3.1 Discussion Paper Proposals

38 As indicated in its Discussion Paper, the Commission developed the reset process to consist of four consecutive stages, each with a consultative element. These stages contain progressively more detail on the proposed thresholds and seek to address and draw conclusions on particular issues as the project proceeds. The four stages proposed were as follows:

- discussion stage;
- methodology stage;
- decision stage; and
- technical drafting stage.

39 The proposed process is to be completed by 1 April 2009.

2.3.2 *Submissions*

40 A number of Discussion Paper submissions suggested the reset be delayed to better reflect the then Cabinet Decision.[13] In considering these views the Commission notes that the Cabinet Decision has since been superseded by the Commerce Amendment Bill ("the Bill")[14]. The Commission notes that a number of changes were incorporated into that Bill, and that further amendments are likely as part of the select committee process. Until such times as new legislation is passed and takes effect, the Commission will proceed on the basis of its existing legislation and Purpose Statement and continue with the threshold reset process as planned.

Thresholds vs. Control

41 A number of submitters suggested that the reset should be rolled over for a period of time, many suggesting one year. One of the main arguments put forward was the need for the reset to account for a potential transition to a default price-path (as outlined in the Bill) in 2009. A number of factors were cited, including the lack of time and the need to adjust the regulatory emphasis between screening for control and one of default control.

42 Some submitters considered that if the Commission were to proceed to reset thresholds for 2009, then this should be done on a simplified basis. This was suggested on the grounds that the thresholds may be transitory prior to the transition to the default price-path. A number of submitters noted that the Commission should be clear whether it is setting thresholds or de facto price controls. Submitters considered that the different consequences attached to a breach would require a much more detailed approach to setting price controls than thresholds.

43 The Commission considers that the reset should proceed as currently envisaged under the existing regulatory framework. The existing arrangements were put in place from 1 April 2004 and the Commission considers that five years is an appropriate length for the regulatory period. It strikes a reasonable balance between the interests of regulated businesses and consumers as it is a sufficient period to maintain incentives for firms to improve efficiency, while enabling regulators to bring prices back into line with costs in a timely manner where businesses exceed efficiency expectations. Changing the timing of the reset would delay the sharing of efficiency benefits with customers. The Commission does not therefore consider that the thresholds should be subject to a rollover, nor should they be developed as a set of simplified or transitory arrangements.

Regulatory Principles and Guidelines

44 In May 2008, the Commission published a draft process paper[15] setting out its intention and planned process to develop regulatory principles and guidelines for its regulatory functions under Parts 4, 4A and 5 of the Commerce Act 1986. This is intended to promote certainty and transparency for all interested parties.

---

13 Media statement, 21 November 2007 – www.beehive.govt.nz/dalziel

14 Parliamentary Library, *Commerce Amendment Bill 2008: Digest No. 1608*, 13 March 2008.

15 Commerce Commission, *Regulatory Principles and Guidelines Project: Draft Process Paper*, May 2008.

45 A number of submitters to the Discussion Paper suggested that the reset should be postponed until the outputs of this work-stream are available for consideration. The Commission notes that the draft process paper envisaged that regulatory principles and guidelines will not be finalised before June 2010, and that the majority of the potential outputs are not necessary for the reset of thresholds. The Commission therefore sees no merit in delaying the reset. Finalised regulatory principles and guidelines are likely to be of more relevance to customised regulatory terms.

2.3.3 Commission's Proposed Approach

46 The Commission considers that it is appropriate to proceed with the reset to put in place revised thresholds from 1 April 2009.

47 In light of submissions, the Commission proposes to adjust the emphasis of the process stages. This adjustment focuses on the balance of preliminary views set out in this paper (the Methodology Paper: Update) and the later documents. The Commission initially proposed to address the detailed form of thresholds in this paper, to include applicable formulae and preliminary indications of the range of threshold levels. The Commission now considers it is more appropriate to hold over a number of key preliminary views, in particular regarding the price-path, until the Initial Decisions Paper. Three reasons underpin this approach:

- it allows further consideration of data to inform the reset;
- it allows additional research and further consideration of asset valuation methods; and
- it provides an opportunity to consider in more depth issues raised in submissions.

48 Under the existing Information Disclosure Requirements, EDBs are required to undertake a valuation of their system fixed assets using optimised deprival value ("ODV"), and to undertake periodic ODV revaluations.[16] The Commission has previously indicated that its regulatory objectives under Part 4A and its regulatory principles for asset valuation could be met by the consistent use of either ODV or an indexed historic cost ("IHC") asset valuation methodology.[17] In recent submissions on the Commission's proposals for implementing changes to these requirements, EDBs were generally supportive of giving further consideration to historic cost valuation methods, and the Commission has undertaken to consider further the issue of asset valuation.

49 If the asset valuation methods were to change, it would affect disclosed profitability measures and potentially prices if set in accordance with a CPI-X price-path threshold. Given that profitability is a core component of the existing price-path, any changes to the asset valuation method would have significant implications for measuring returns under the thresholds during the regulatory period. The Commission therefore considers it important to consider fully the relative merits of asset valuation methods before

---

16 Commerce Commission, *Electricity Information Disclosure: Requirements Issued 31 March 2004 (Consolidating all amendments to 1 April 2007)*, 31 March 2006.

17 Commerce Commission, *Regulation of Electricity Lines Businesses, Implementing Valuation Choice for System Fixed Assets, Draft Decisions and Discussion Paper*, 24 December 2004.

concluding its approach on the profitability components of the price-path. The issue of asset valuation is discussed further in chapter 3.

50 The Commission considers that there are a number of outstanding issues that require further consideration before the Commission can reach its preliminary views on the threshold reset. Additional research has been commissioned to assist the Commission in understanding the options available to it. This has resulted in a change to the process, but in the Commission's view, this change brings with it the following advantages:

- it enhances the Commission's ability to undertake sufficient and thorough analysis;
- it broadens the ability of the Commission and interested parties to consider developments in the wider regulatory framework; and
- it enables a more thorough consideration of submissions in developing the Initial Decisions Paper for September 2008.

Revised Reset Process

51 The Commission does not consider that the proposed change to the process will impact on the overall timetable. The Commission intends largely to follow the same process, of which three stages remain, but these will be progressed after further research. The remaining stages are:

- methodology stage;
- decision stage; and
- technical drafting stage.

Table 2 Process Timetable

Indicative Dates	Milestones	Stage
Complete	Publication of and consultation on the Discussion Paper.	**1**
June 2008	Publication of this Methodology Paper: Update.	**2**
September 2008	Publication of and consultation on the Initial Decision Paper.	**3**
October 2008	Conference and cross submissions on the Initial Decision Paper.	
November 2008	Indicative threshold levels published (to include a short consultation).	
December 2008	Publication of Final Decision Paper.	
February 2009	Publication of and consultation on draft Gazette Notice.	**4**
1 April 2009	New thresholds to apply following publication of Gazette Notice.	

2.4 REGULATORY PRINCIPLES

52 The Commission intends to evaluate threshold options against its proposed Regulatory Framework and Implementation Principles ("Regulatory Principles"). This section discusses these in further detail.

2.4.1 Discussion Paper Proposals

53 The existing thresholds were developed against a set of Regulatory Principles (evaluation criteria) that reflected relevant aspects of the legal framework or regulatory best practice. In its Discussion Paper, the Commission outlined its intention to use Regulatory Principles to assess options for the threshold reset. The proposed Regulatory Principles are set out in Table 2.

Table 3 The proposed Regulatory Principles

Framework Principles	***Reference***
Excess Profit Limiting – businesses are limited in their ability to extract excessive profits.	*s 57E(a)*
Efficiency – businesses face strong incentives to improve allocative, productive and dynamic efficiency.	*s 57E(b)*
Price/Quality Trade-off – seeks to ensure that businesses provide services at a quality that reflects consumer demands and that businesses maintain appropriate levels of reliability while complying with the price-path.	*s 57E(b)*
Benefit Sharing – efficiency gains should be shared with consumers over time, including through lower prices.	*s 57E(c)*
Investment – businesses should have appropriate incentives to make efficient investments in infrastructure.	*s 57E(b)* *GPS Aug 07 (7)*
Accountability – businesses should be held accountable for any investments explicitly provided for by a threshold mechanism.	*GPS Aug 07 (8b)*
Implementation Principles	***Reference***
Certainty – seeks to provide for regulatory stability, transparency, predictability and certainty.	*GPS Aug 07 (7a)*
Cost-Effectiveness – reduces the regulatory burden to industry and consumers both in terms of costs and resources.	
Robustness – methodologically robust, replicable and transparent.	
Appropriateness – takes into account, where practicable, industry and business-specific factors.	
Consistency – takes into account other elements of the regulatory framework and the overall threshold arrangements.	

2.4.2 Submissions

54 The following section discusses the views of submitters relating to the Regulatory Principles set out in the Discussion Paper.

Overall Regulatory Principles

55 All submitters supported the use of Regulatory Principles. The majority also supported the revised list of Regulatory Principles as more accurately reflecting the Purpose Statement and the wider regulatory framework. The Commission proposes to continue with this approach.

56 Orion questioned why the Commission had removed the previous criterion which distinguished between price-paths under a threshold regime and a control regime.[18] The Commission considers that this point is implicit in the *Consistency Principle*, which requires the Commission to take into account 'overall threshold arrangements' and therefore does not consider it necessary to set this out as a separate Principle.

57 PWC[19] and Marlborough[20] questioned why the Regulatory Principles differed from those in the Information Disclosure Requirements paper.[21] The Commission notes that while some differences arise this is because of the differing objectives of the two parts of the targeted control regime. The Commission also notes the two parts of the regime are complementary to each other.

Additional regulatory principles

58 A number of submissions proposed additional principles. AECT,[22] Aurora,[23] and Unison[24] proposed adding a principle requiring the Commission to have regard to the 'financial sustainability' of regulated EDBs. The Commission considers 'financial sustainability' is most effectively promoted by arrangements that enable EDBs to operate and invest efficiently. As such, the Commission has addressed this through the *Investment Principle*, which requires that businesses should have appropriate incentives to make efficient investments in infrastructure.

59 Vector proposed three related regulatory principles requiring: no 'retrospectivity', past decisions to be respected and all substantive decisions to be made concurrently.[25] The Commission does not consider that these are appropriate regulatory principles. The Commission requires flexibility to ensure that its decisions are made in accordance with the statutory requirements and other relevant considerations at the time of making a decision.

---

18 Orion, *Submission on Threshold Reset 2009 Discussion Paper*, 18 February 2008, p. 23.

19 PriceWaterhouseCoopers, *Submission on the Threshold Reset 2009 Discussion Paper*, 18 February 2008, p. 13, paragraph 16.

20 Marlborough Lines, *Submission on the Threshold Reset 2009 Discussion Paper*, 18 February 2008, p. 2.

21 Commerce Commission, *Review of the Information Disclosure Regime: Companion Paper to the Exposure Draft of the Revised Information Disclosure Requirements*, 20 December 2007, p. 23.

22 Auckland Energy Consumer Trust, *Submission in Response to Commerce Commission Discussion Paper on 2009* Reset, 18 February 2008, p. 23.

23 Aurora Energy Limited, *Submission to the Commerce Commission on its Discussion Document for the 2009 Threshold Reset*, 18 February 2008, p. 8.

24 Unison, *Submission to Commerce Commission on Threshold Reset 2009 Discussion Paper*, 18 February 2008, p. 2.

25 Vector, *Electricity Thresholds Reset: Response to Discussion Paper*, 21 February 2008, pp. 10-11, paragraphs 43 and 48-49.

60 Powerco suggested changes to the regulatory principles including expanding the *Certainty Principle* to include long-term certainty and stability, expanding the *Consistency Principle* to include the requirement for consistency in regulatory actions and outcomes over regulatory periods, and adding the concept of balancing the concerns of interested parties to the *Appropriateness Principle*.[26] The Commission agrees that both regulatory stability and consistency are important. However, for the reasons set out above, including the potential for changes in the regulatory framework over time, the Commission considers that consistency does not mean that regulatory decisions should always be absolutely the same over regulatory periods. The key factor is that decisions are consistent with the regulatory framework, and that the decision-making process is consistent over time.

Trade-offs between Regulatory Principles

61 The majority of submitters considered that the Commission should provide further guidance as to how it would trade off the different Regulatory Principles. In cases where a decision necessitates consideration of trade-offs and potentially a choice between non-complementary Regulatory Principles, the Commission will balance those trade-offs and consider the appropriate emphasis on individual Regulatory Principles. The Commission proposes to make its decision, after taking into account a number of factors, including (but not limited to):

- the degree to which the overall Purpose Statement is promoted;
- the degree to which other Regulatory Principles are impeded, i.e., the effect is asymmetric;
- its experience operating the existing arrangements; and
- the views of interested parties.

62 The Regulatory Principles are divided into Framework Principles and Implementation Principles. The Framework Principles are largely derived directly from the Purpose Statement and, in the case of investment and accountability, from the August 2007 GPS. With the exception of certainty, which is also required under the August 2007 GPS, the Implementation Principles reflect aspects of good regulatory practice and thus play an important role in resolving trade-offs.

63 The Commission notes that the majority of the trade-offs identified in submissions concern combinations of the *Excess Profit Limiting, Efficiency, Benefit Sharing* and *Investment Principles*. The Commission notes that a key factor in seeking to achieve balance between these Regulatory Principles is allowing businesses to keep a sufficient proportion of efficiency gains such that they retain incentives to invest efficiently. Under rate of return regulation all excess profits would be removed from firms: this would remove any incentive to improve efficiency as firms would not be rewarded for any efficiency gains. Conversely, firms face strong incentives to improve efficiency if they are allowed to keep all efficiency gains, but they may accumulate excessive profits and the benefits of efficiency gains would not be passed on to consumers. The aim of incentive based regulation is to balance these objectives. If firms have the ability to

[26] Powerco, *Submission to the Commerce Commission on 2009 Threshold Reset*, 18 February 2008, p. 35 and p. 12.

keep a sufficient proportion of efficiency gains such that they would retain incentives to continue making efficiency improvements then the trade-offs between the *Efficiency Principle* and the *Excess Profit Limiting*, *Benefit Sharing* and *Investment Principles* can be reconciled. Ultimately, it is in the long-term interests of consumers, and consistent with the Purpose Statement, if an appropriate balance is struck between these Regulatory Principles.

64 Finally, the Commission notes that where the trade-offs between the Framework Principles are finely balanced, the Implementation Principles provide guidance. For example, if a business has confidence that the regulatory environment is consistent, it is more likely to invest capital and resources optimally. If, on the other hand, the firm believes the environment to be inconsistent then the business may not invest optimally. One example is the treatment of profits: without certainty regarding the approach to the measurement of future excess profits, a business may not invest efficiently and prudently.

Reconciling trade-offs between Regulatory Principles

65 A number of submitters proposed other ways to reconcile the trade-offs. Eastland,[27] ENA,[28] Orion,[29] Powerco,[30] PwC,[31] and Unison[32] considered that the 'long-term benefits to the consumer' should function as the overarching objective. AECT[33] and Aurora[34] considered the overriding objective should be consistency with pressures found in a competitive market.

66 Some submitters suggested ranking the Regulatory Principles as a basis to address trade-offs. The ordering of objectives in documents such as the Purpose Statement, the August 2006 GPS and the Commerce Act Amendment Bill were identified as a basis for ranking. Unison[35] and ENA[36] considered that the *Investment Principle* should be elevated above the other Regulatory Principles.

67 The Commission does not consider that it is appropriate to rank the Regulatory Principles. While the Purpose Statement sets out a number of objectives, none of these is elevated in such a way that suggests one objective should be assigned a higher weighting, nor does the Purpose Statement suggest a basis to assign weights to individual Regulatory Principles. The Commission does not therefore propose either to set an over-riding objective or to rank the Regulatory Principles.

---

27 Eastland Network Limited, *Submission made on the Discussion Paper 'Threshold Reset 2009*, 18 February 2008, pp. 3-4, paragraph 3.4.
28 Electricity Networks Association, *Submission on the Commerce Commission's Threshold Reset Discussion paper*, 29 February 2008, p. 53.
29 Supra *N18*, p. 23.
30 Supra *N26*, p. 36.
31 Supra *N19*, p. 4, paragraph iv.
32 Supra *N24*, p. 3.
33 Supra *N22*, p. 9, paragraph 33.
34 Supra *N23*, p. 9.
35 Supra *N24*, p. 3
36 Supra *N28*, pp. 24/25, paragraphs 24-27.

2.4.3 Commission's Proposed Approach

68 Having considered submissions, the Commission intends to make no amendments to the Regulatory Principles as they were proposed in the Discussion Paper, and which are set out in section 2.2 (Table 2) of this paper.

2.5 FORM OF THRESHOLDS

69 In developing the existing thresholds the Commission concluded that it was appropriate to utilise thresholds for both price and quality as these were the two key factors of most interest to consumers. This section reviews submissions on the form of thresholds.

2.5.1 Discussion Paper Proposals

Overall Form of Thresholds

70 In its Discussion Paper, the Commission proposed that threshold arrangements should consist of both price-path and quality thresholds, as follows:

- a price-path threshold, based on the Consumer Price Index ("CPI") minus an efficiency factor defined as an X-factor, i.e. CPI–X; and
- a quality threshold consisting of a single criterion – reliability.

Consumer Engagement Criterion

71 The Commission proposed that the consumer engagement criterion be transferred from the quality threshold, with a view to incorporating it within the Information Disclosure Requirements. This issue is discussed further in section 2.5.2.

2.5.2 Submissions

Overall Form of Thresholds

72 Submitters widely supported the existing overall form of the thresholds. Orion supported both price and quality thresholds.[37] PwC considered price and quality thresholds reflected the two outcomes that most impact on consumers.[38] ENA considered that the proposed structure of the thresholds was appropriate and was consistent with most of the Regulatory Principles.[39] It noted that price for a service was used universally in workably competitive markets and that service quality also reflects industry practice. ENA further noted that the existing thresholds have delivered, and are continuing to deliver, benefits to consumers and cited reductions in average prices for electricity distribution services of 9% since 2001.[40]

73 The Commission notes that there is broad support for price and quality thresholds. The Commission recognises that the overall success of the thresholds will depend on the interaction between all of the components of those thresholds, including any factors

---

37 Supra *N18*, p. 24.
38 Supra *N19*, p 5, paragraph vii.
39 Supra *N28*, p. 29, paragraph 29.
40 Supra *N22*, p. 1.

relating to investment or the price-quality trade-off. However, regardless of the individual components that comprise the individual thresholds, the Commission considers that price and quality remain the two key elements of the threshold arrangements. Maintaining this structure would also be in keeping with the *Consistency* and *Price/Quality Trade-Off Principles*.

Price-path Threshold – CPI-X

74 Submitters raised few comments on the high-level form of the price-path threshold, with the majority supporting the retention of a price-path threshold based on CPI-X. The Commission recognises that there is broad support for setting price-path thresholds and for basing these on CPI-X. The Commission notes that CPI-X instruments are commonly used by regulators in overseas jurisdictions as a basis for regulating utilities and considers that they are an appropriate basis for setting thresholds.

75 Several respondents commented on approaches for determining price-path elements, including the use of building-blocks and benchmarking. Orion considered that the Commission had not identified key impacts of benchmarking analysis on efficiency ranking including: subjectivity, the impact of omitted variables, the choice of output measures, and the choice of analytical technique.[41] Orion considered that partial building-blocks were a necessary minimum for control.[42] The Commission notes the range of points made regarding the relative strengths and weakness of benchmarking and building-block approaches for determining the appropriate value of price-path elements. The Commission notes that the results of any benchmarking exercise need to be interpreted carefully, and that benchmarking does not necessarily reflect firm-specific circumstances, which may limit its ability to target firm-specific factors. Overall, the Commission notes that whether benchmarking or building-block approaches are adopted will depend largely on the form of the price-path and whether it includes initial price adjustments. However, the Commission also notes that it is possible for building-block (full or partial) and benchmarking approaches to be employed together. Indeed, the Commission notes that both approaches can complement each other.

76 PwC considered that building-block approaches should be disregarded, and also suggested that benchmarking can be less precise so care should be taken in interpreting results.[43] The Commission agrees that care should be taken when interpreting benchmarking results. It is therefore important that the inputs and outputs used in any benchmarking study are suitably robust so parties can have confidence in their results.

77 Vector suggested that the Commission adopt a ‘watching mode’ on inter-company benchmarking approaches and that a method should not be adopted until a clearly robust methodology becomes evident.[44] The Commission disagrees. There are good reasons why benchmarking is appropriate for the EDB thresholds and these relate to the size and composition of the electricity industry in New Zealand. In terms of both revenue and throughput, the electricity industry is relatively small. However, with 28 EDBs, it has a

---

41 Supra *N18*, p. 10, paragraph 27.
42 Ibid, p 12, paragraph 30.
43 Supra *N19*, p. 17, paragraphs 28 and 29.
44 Supra *N25*, p. 19, paragraph 19.

relatively large number of companies. Cost and complexity are therefore two important issues in developing regulatory arrangements. In these circumstances, benchmarking has important advantages over alternative methods, such as building-blocks. It is possible, however, that introducing partial building-block approaches may be beneficial and result in more robust arrangements, and indeed such options are discussed in the context of the price-path threshold in chapter 3.

78 Unison commented that it was far from certain that introducing additional factors to the existing price-path formula would enhance the accuracy of the price-path threshold, and would require a more intrusive approach to regulation.[45] It considered that greater benefits were likely to arise from enhancing the post-breach processes. The Commission agrees that the addition of factors will increase the complexity of the arrangements. However, the Commission notes that it is important to strike an appropriate balance between ensuring the thresholds account for EDB revenue requirements while ensuring the level of complexity is consistent with a threshold regime. As such, incremental refinements may be the most appropriate additions to the price-path. The Commission also agrees it is important to improve the post-breach process and proposes to review its Assessment and Inquiry Guidelines[46] (see section 6.4).

Quality Threshold

79 Submitters raised few comments on the high-level form of the quality threshold. The majority supported the continued inclusion of a quality threshold.

80 Aurora, while supporting setting a quality threshold, considered that the price threshold is most relevant as price is the main driver of economic activity.[47] It considered that quality should be monitored through a secondary threshold. While agreeing on the importance of price as a key driver of economic activity, the Commission does not agree with the Aurora's proposed approach. The Commission considers that both elements are equally important to consumers' interests and that this should be reflected in the form of the thresholds. To do otherwise would suggest a reduced emphasis on quality which would not be appropriate.

81 Marlborough considered that historic quality data was not necessarily compiled with the same degree of precision as that adopted in more recent years and therefore that future quality thresholds should be based on the more recent data.[48] The Commission agrees with Marlborough that more accurate data will ensure more robust quality thresholds going forwards, and will request data from EDBs for the year ending 31 March 2008.

82 The Commission notes the alternative treatment of quality proposed in the Unison submission, which seeks to differentiate between the treatment of minor and more significant breaches by using dead-bands around the threshold.[49] The Commission considers there would be a number of complications with such an approach, and that

---

45 Unison, *Response to Commerce Commission's Discussion Paper: Threshold Reset 2009 prepared by CRA*, February 2008, pp18-19.
46 Commerce Commission, Assessment and Inquiry Guidelines, 19 October 2004.
47 Supra *N23*, p 9.
48 Supra *N20*, p 2.
49 Supra *N45*, p 26.

any such approach might require the definition of an appropriate level for the dead-band around existing quality levels within which there would be no incentives or penalties. The Commission considers that it is possible to address the issues regarding the treatment of more minor breaches within the context of the thresholds regime without the complexity of a multi-tier approach to regulating quality.

Consumer Engagement Criterion

83 The proposal that the consumer engagement criterion be removed from the quality threshold and incorporated within the Information Disclosure Requirements was supported by all submitters other than MEUG.

84 MEUG considered that including the existing consumer engagement criterion in the threshold was valuable because it stretched EDBs to think more about costs and quality trade-offs for consumers than if measures were simply part of the Information Disclosure Requirements.[50] The Commission agrees that the consumer engagement criterion is valuable, but considers that its value would not be diminished by transferring it to the Information Disclosure Requirements. The Commission notes that the threshold reset and Information Disclosure Requirements comprise complementary parts of the overall regulatory regime, and it is therefore their combined effect that determines the effectiveness of the regulatory regime.

85 In addition, the Commission notes that there are a number of limitations to the effectiveness of including consumer engagement within the thresholds. Most notably, the elements of the consumer engagement criterion are expressed in qualitative terms and are difficult to measure objectively. The Commission also notes that a number of overseas jurisdictions have been mindful of the need to ensure that firms deliver service levels reflecting consumer demand, but none have included consumer engagement criterion as part of a control regime. Instead, a number adopt service incentive schemes. The Commission notes its intention to require EDBs to provide more detailed service quality information in their annual returns, as required by the Information Disclosure Requirements. This issue is discussed in more detail in chapter 5.

86 While there are a number of advantages of transferring consumer engagement to the Information Disclosure Requirements, the Commission notes the concerns expressed by MEUG, and considers it important to ensure that EDBs continue to engage effectively with consumers. The Commission notes that including consumer engagement requirements in Information Disclosure Requirements would allow the collection of data that would enable the Commission (and others) to see how effective engagement is between EDBs and their consumers. The Commission notes that this would provide evidence on which to analyse the performance of EDBs. In the event that the standard of consumer engagement declined, the Commission would consider returning the consumer engagement criterion to the quality threshold at the following regulatory reset (i.e., from 2014).

87 PwC suggested that the first two elements of the consumer engagement criterion – to advise consumers properly and consult with consumers – tended to occur simultaneously, and that they should therefore be combined as it was difficult to

50 MEUG, *Submission on Threshold Reset 2009 Discussion Paper*, 18 February 2008, p. 1, paragraph 3.

demonstrate compliance with these as separate requirements.[51] The Commission remains of the view that the inclusion of the consumer engagement criterion within the Information Disclosure Requirements should be subject to consultation, and that views regarding the revision of those requirements should be considered as part of that consultation process. The Commission is considering how best to take this work forward.

2.5.3 Commission's Proposed Approach

88 The Commission's preliminary view is that the overall arrangements should comprise a price-path threshold in conjunction with an updated quality threshold, as follows:

- a price-path threshold, based on CPI–X; and
- a quality threshold consisting of a single criterion based on reliability.

89 The Commission considers that retaining both a price and a quality threshold promotes the *Price/Quality Trade-off Principle*.

90 The Commission considers the consumer engagement criterion should be transferred to Information Disclosure Requirements. However, the Commission intends to retain the option of returning the consumer engagement criterion to the quality threshold.

---

[51] Supra *N19*, p 34.

CHAPTER 3: EFFICIENT OPERATION OF EDBS

91 This chapter summarises both the Commission's initial views (as expressed in the Discussion Paper) and submissions, before setting out the Commission's preliminary views on the components of the price-path threshold.

3.1 INTRODUCTION

92 The Commission, in its Discussion Paper, identified a number of possible mechanisms that it was considering for inclusion under the price-path threshold. Having considered submissions the Commission outlines, in this section, its preliminary views and areas where it considers that further research is required.

3.1.1 Summary of Preliminary Views

93 In summary, the Commission's preliminary views are that:

- both productivity and profitability considerations remain relevant to the setting of a CPI-X based price-path threshold;
- the B-factor, based on aggregate productivity and calculated using Total Factor Productivity ("TFP") analysis, should be retained in the new price-path threshold;
- relative productivity performance of the EDBs should be taken into account and additional work undertaken to ensure the basis of the Multilateral Total Factor Productivity ("MTFP") analysis is sufficiently robust; and
- a profitability adjustment should be determined following further research into the availability of suitable data.

94 These preliminary views are discussed further in the following sections: aggregate productivity (section 3.2), relative productivity (section 3.3), and profitability (section 3.4).

3.1.2 Further Research

95 There are a number of areas of the price-path threshold where the Commission intends to undertake further work before setting out its initial decisions in September 2008. These are:

- to incorporate additional data into the price-path analysis to allow the re-running TFP and MTFP analysis;
- to consider a range of productivity analysis issues including, but not limited to: considering whether the existing MTFP methodology adequately adjusts for consumer and energy density; considering whether replacement cost should be used to measure capital input quantities; and addressing issues associated with differing system boundaries and structure;
- to investigate whether a measure for reliability and security of supply can be included in the productivity measure;

- to undertake research into the requirements of a price adjustment in the first year of a regulatory period ("P_0 adjustment") using partial building blocks. This includes the derivation of appropriate information on revenue, operating costs, asset values, depreciation, and the appropriate WACC or profitability target; and

- to investigate the relative merits of asset valuation methods, including their consistency with productivity analysis.[52]

3.2 AGGREGATE PRODUCTIVITY

96 The existing price-path threshold incorporates a factor (B-factor) that reflects differences between the growth in the distribution industry's total factor productivity (TFP) and the growth in economy-wide TFP. The inclusion of this B-factor assumes that EDBs should pass industry productivity gains in excess of economy-wide productivity gains onto consumers.[53] It also seeks to take into account the difference between the growth in input prices faced by the distribution industry and those faced by the whole economy.[54]

3.2.1 Discussion Paper Proposals

97 The Commission set out its view that aggregate productivity, as reflected by the B-factor, provided an important 'check' on how well the distribution industry was performing relative to the economy. The Commission's initial view was that aggregate productivity, based on TFP analysis, should remain part of the price-path threshold on the grounds that its retention was consistent with the *Benefit Sharing* and *Efficiency Principles*.

3.2.2 Submissions

98 The majority of submitters supported—in principle—the inclusion of a factor reflecting aggregate industry-wide productivity as part of the price-path. AECT noted that the "B-factor encourages individual EDBs to have better efficiency/productivity than the industry average",[55] and PwC supported the B-factor as it believes it assists in meeting the *Efficiency Principle* and the *Benefit Sharing Principle*.[56] PowerNet stated that the B-factor appeared to be based on sound principles and information.[57] The Commission agrees with the majority of submitters that the inclusion of the B-factor meets a number of the Regulatory Principles.

---

52 The Commission initially considers that an un-indexed historic cost approach may not be consistent with a productivity-based CPI-X path, because such a path—by its very nature—does not allow for the effects of inflation and so will not be consistent with the productivity measurement framework.

53 Where EDB aggregate productivity gains are below those of the economy, the Commission may need to consider a more lenient price-path.

54 It was considered appropriate to adopt a zero differential between the distribution industry's input prices and the economy's input prices, given conflicting information from official input price indexes and since a statistically significant difference could not be established.

55 Supra *N22*, p. 11, paragraph 43.

56 Supra *N19*, p. 19, paragraph 37.

57 PowerNet, *Submission to the Commerce Commission on the 2009 Threshold Reset Discussion Paper*, 18 February 2008, p. 3, paragraph 6.3.

99 While the B-factor was supported in principle by most submitters, a number raised concerns about the methodology used to derive it. This included concerns about the variables used in determining the input and output indexes. ENA,[58] PwC,[59] and Unison[60] stated that, while they were comfortable with the inclusion of the B-factor, they were concerned that the output measure did not take into account changes in the quality of service. The Commission notes that the absence of a reliability measure in TFP analysis is an issue, and has engaged Meyrick to undertake further research to determine if a measure for reliability, and security of supply, can be included in the productivity measure.

100 Orion considered that the data quality, and the relatively short period that the data covers, means that the methodology is insufficiently robust.[61] The Commission agrees that a longer time series would improve the robustness of the data, and notes its intention to extend the analysis to reflect additional data. The Commission also intends to address a number of data issues for the 2009 reset, including determining the reason for the large increase in operating expenditure ("opex"), in particular over the period between 2003 and 2005, and deciding on appropriate capital input shares.

101 Vector supported the inclusion of the B-factor, but indicated that a more robust approach is needed to be taken in dealing with differences in sector input prices relative to the rest of the economy.[62]

102 Powerco pointed out that the prices of inputs to the electricity industry have been increasing at a faster rate than general inflation (as measured by the CPI) meaning that it was unrealistic to expect productivity in the electricity distribution industry to increase at a rate faster than the economy in the near to medium term.[63] While the Commission acknowledges that input prices for the electricity distribution industry may have been increasing faster than general inflation, it notes that productivity measures the *quantity* of outputs relative to the *quantity* of inputs – prices are only used for weighting purposes in forming the productivity measure. If a firm's input prices are increasing faster than those in the rest of the economy, it increases the incentives facing the firm to achieve productivity improvements as a means of ameliorating the effect of its relatively rapid input price increases. While the Commission does not have any preconceived views regarding electricity distribution productivity performance relative to the rest of the economy, it does not accept the premise underlying Powerco's assertion.

103 The Commission also notes that in the productivity-based CPI–X framework, the difference between input price increases in the economy as a whole and in the electricity distribution industry is dealt with in the price differential term, which forms part of the B factor.[64] If the industry's input prices are found to be increasing faster

---

58 Supra *N22*, p. 30, paragraph 37.
59 Supra *N19*, p. 20, paragraph 38.
60 Supra *N24*, p. 3.
61 Supra *N18*, p. 16, paragraph 44.
62 Supra *N25*, p. 16, paragraph 63.
63 Supra N26, pp. 18-19.
64 Meyrick and Associates (2003), *Regulation of Electricity Lines Businesses, Analysis of Lines Business Performance – 1996–2003*, Report prepared for the Commerce Commission, 19 December 2003.

than those of the economy as a whole, then the magnitude of the differential is deducted from the X factor allowing the industry to increase its output prices more than would otherwise be the case to accommodate its more rapid input price growth. While the Commission could not identify a robust non-zero price differential term in establishing the existing thresholds (given the quality of data available at the time of the determination), this issue will be examined thoroughly in resetting the thresholds.

3.2.3 Commission's Proposed Approach

104 It is the Commission's preliminary view that the B-factor, based on aggregate productivity, be retained in the new price-path threshold as it is consistent with the *Benefit Sharing* and *Efficiency Principles*. As with the existing threshold, the B-factor would represent the difference in productivity growth between the whole economy and the electricity distribution industry.

105 The Commission is of the view that differences between the input price growth in the economy as a whole and the electricity distribution industry should be dealt with through the 'price differential' term in the B-factor.

106 A number of issues need to be considered and dealt with before the final TFP is calculated for the industry. The Commission has engaged Meyrick to undertake further research into these issues, using more recent data when they become available.

3.3 RELATIVE PRODUCTIVITY

107 The existing threshold regime includes a relative productivity factor (C_1-factor) in the price-path threshold. This is based on MTFP analysis, with EDBs being ranked into three groups, and a factor being assigned based on the groupings (relatively high, average and low productivity).

3.3.1 Discussion Paper Proposals

108 The Commission outlined two options for the treatment of relative productivity. The first option involved retaining the existing C_1-factor as part of the price-path threshold. The Commission noted this approach should provide greater certainty for EDBs by allowing them time to adjust to earning a normal rate of return and to increase productivity. The second option involved replacing the C_1-factor with an adjustment to the initial prices in the first year of the regulatory period (P_0 adjustment).

109 The introduction of a P_0 adjustment was also considered as an option for replacing the C_1-factor. This option is discussed in further detail in the section on relative profitability (section 3.4).

3.3.2 Submissions

110 Most submitters were against the inclusion of a relative productivity factor in the price-path threshold. Submitters qualified their lack of support as resulting from concerns relating to the methodology employed to produce the C_1-factor, data limitations, and that the measure was not appropriate for meeting the proposed Regulatory Principles.

111 AECT,[65] Aurora,[66] and Powerco[67] considered that the MTFP measure was neither predictable nor transparent, is difficult to understand, and is based on technical efficiency rather than economic efficiency. The Commission disagrees with the claim that the MTFP measure is difficult to understand. The MFTP methodology is clearly set out in Meyrick (2003)[68] and is relatively easy to reproduce. The Commission also disagrees that the C_1-factor only measures technical efficiency. While quantities are the primary drivers of the MTFP measure, the use of value shares to weight both the output and input quantities means that MTFP reflects both *technical* and *allocative* efficiency (where allocative efficiency refers to the mix of outputs and the mix of inputs). The input side of MTFP, in reflecting technical and allocative efficiency, seeks to measure EDB cost efficiency. When combined with a similar coverage on the output side, this produces a measure of overall economic efficiency.

112 A number of submitters raised concerns that the MTFP analysis did not deal adequately with differences between networks, including differences in density, and that the output measure did not include reliability. ENA pointed out that the measure overlooked fundamental differences in the costs to serve differing network areas.[69] Orion,[70] Unison,[71] and Vector[72] all noted that the absence of a reliability (and security of supply) variable in the MTFP analysis meant that the relative productivity measure was flawed. Powerco considered that the analysis may not be fully normalising for density and considered that differences in system boundaries and historic system structures should be taken into account.[73] The Commission agrees with a number of the points made relating to the inability of MTFP analysis to account for all environmental differences, such as different terrain and historical network design, and the absence of a reliability measure. A number of these points are included in the areas for further research outlined in section 3.1. It should be noted that the use of three outputs (throughput, system capacity and customer numbers) has allowed density (both energy and customer density) to be incorporated into the MTFP analysis.[74]

113 Five submitters raised concerns with the shift in some EDBs' rankings due to a higher weight being placed on underground cables. Powerco,[75] PowerNet,[76] PwC,[77] Unison,[78] and Vector[79] all considered that the MTFP measure is unreliable as a result of the shift in rankings when just one input is restated. The Commission acknowledges that the change in the weight on underground cables has indicated a significant shift in the rankings for a small number of EDBs. As noted in the Discussion Paper, the increase in

65 Supra *N22*, p. 12, paragraphs 51-53.
66 Supra *N23*, p. 11.
67 Supra *N26*, p. 14.
68 Meyrick and Associates, *Regulation of Electricity Lines Businesses: Resetting the Price-path Threshold – Comparative Option*, September 2003.
69 Supra *N22*, p. 32, paragraph 41.
70 Supra *N18*, p. 17, paragraph 47-48.
71 Supra *N24*, p. 7.
72 Supra *N25*, p. 19, paragraph 72.
73 Supra *N26*, p. 16.
74 Supra *N*68, pp. 26-27.
75 Supra *N26*, p. 14.
76 Supra *N57*, p. 4, paragraphs 6.5-6.9.
77 Supra *N19*, pp. 23-24, paragraphs 44-48.
78 Supra *N24*, pp. 7-8.
79 Supra *N25*, p. 19, paragraphs 76-77.

the relative weighting of underground cables resulted from the release of the 2004 ODV Handbook, which allowed for the explicit recording of underground cables, previously recorded in the ODV register as overhead lines, these being their modern equivalent assets ('MEA'). Using the higher recorded replacement value for underground cables, led to a significant shift in input weights for those EDBs with a high proportion of undergrounding.

3.3.3 Commission's Proposed Approach

114 It is the Commission's preliminary view that the relative productivity performance of the EDBs should be taken into account. The Commission considers that a factor based on relative productivity provides EDBs with incentives consistent with the *Efficiency* and *Benefit Sharing Principles*. The Commission is of the view that adjusting for relative productivity will encourage EDBs to move towards operating at the efficient frontier of the industry.

115 Further research and analysis is being undertaken by the Commission to address the issues identified by Meyrick (2007), including dealing with ODV revaluations and system reliability.

116 If reliability cannot be dealt with appropriately in the productivity analysis, the Commission considers that this may be adequately dealt with by means of an S-factor adjustment. This option is considered in further detail in the section on price-quality trade-offs (section 5.5).

3.4 PROFITABILITY

117 The existing threshold regime includes a relative profitability factor in the price-path threshold. This factor was based on a relative profitability indicator ("RPI"), which was consistent with the productivity measures. EDBs were ranked into three groups, and a factor was assigned based on the groupings (relatively low, average and high profitability).

3.4.1 Discussion Paper Proposals

118 The Commission outlined two options for the treatment of profitability. The first involved retaining the existing C_2-factor as part of the price-path threshold. The second involved making a one-off adjustment to prices in the first year of the regulatory period (a P_0 adjustment), to account for unsustainably low or excessive profits. The Commission noted that there were a number of issues with making P_0 adjustments, including whether additional data was required to derive the level of P_0 adjustments, and whether data would capture differences between EDBs.

119 The Commission also acknowledged the issue of the effect on the reported Return on Investment ("ROI") of the asset revaluations in 2004 that resulted from revaluing in accordance with the 2004 ODV Handbook.

3.4.2 Submissions

120 The majority of submitters that supported the inclusion of a profitability factor indicated that they disagreed with the RPI measure and would prefer an ROI measure to be used. ENA[80] and Powerco[81] supported the use of an ROI measure based on information to be provided by EDBs under the proposed Information Disclosure Requirements. The Commission notes that while a number of EDBs favour the use of an ROI measure, EDBs apply different depreciation schedules and revalue their assets differently, and that the ROI for 2004 has been affected by the revaluation gains in that year. This complicates comparisons of EDB ROIs, as well as determining what might be an appropriate ROI for the EDBs to earn. It is likely that further information would be required from EDBs to allow meaningful comparisons and, if deemed necessary, adjustments.

121 PwC did not support the inclusion of a relative profitability factor particularly when the different ownership structures in New Zealand lead to different pricing and discounting strategies.[82] The Commission notes that the RPI can be interpreted as the economic rate of return and has a long history in measuring the performance of infrastructure firms and is consistent with the TFP measures used.

122 Most submitters indicated that the revaluations should be ignored as the EDBs have not been able to set prices off of the higher asset base. The Commission considers that, in principle, any income gains (or losses) should be taken into account if a profitability factor is included, otherwise EDBs may be able to 'over-recover' going forward. However, in practice, it may be difficult to calculate the true magnitude of such gains (or losses), when a reasonable proportion relates to a shift in treatment of underground cables.

123 Some submitters considered that the inclusion of a profitability factor created disincentives. AECT and Aurora noted that a focus on profitability undermines efficiency incentives. AECT pointed out that high returns may result from efficiency improvements that should be shared over time.[83] Aurora noted that a price-path which includes strong incentives for efficiency would itself constrain profitability, therefore an explicit profitability factor is not required.[84] While the Commission acknowledges that high returns may result from efficiency improvements, where this occurs the Commission would expect these to be shared with consumers over time. The Commission considers that the inclusion of a profitability factor is part of achieving economic efficiency, as it reflects the level of cost recovery (i.e., is close to a normal rate of return being earned after allowing for risk) which is not addressed by the productivity factors.

124 Eastland,[85] Marlborough Lines,[86] and PwC[87] suggested the exclusion of profitability measures until appropriate input methodologies are developed. While the Commission

80 Supra *N22*, p. 37, paragraph 57.
81 Supra *N26*, p. 21, paragraph 6.2.
82 Supra *N19*, p. 25, paragraph 57.
83 Supra *N22*, p. 13, paragraphs 56-59.
84 Supra *N23*, p. 12.
85 Supra *N27*, p. 5, paragraph 3.7.
86 Supra *N20*, p. 3.

agrees that formal regulatory principles and guidelines would aid its consideration of profitability, the current timeframes of the regulatory principles and guidelines project, to be completed in mid-2010, means that these are not relevant for the existing reset process.

125 Unison considers that the Commission's current assessment of historical profitability is inappropriate as it takes no regard of the trend in a firm's rate of return over the existing regulatory period.[88] Unison goes on to point out that this entails risks that a firm, earning above the appropriate regulatory WACC but with a declining ROI trend, is penalised over the course of the regulatory period. The Commission notes that consideration needs to be given to whether the average return over a number of years or the return for the most recent year is used as the basis of an adjustment. There is a trade-off between using the most recent information and adequately allowing for year-on-year volatility in profitability data.

P_0 Adjustment

126 The majority of submitters did not support the use of a P_0 adjustment. AECT,[89] Babcock & Brown,[90] ENA,[91] Orion,[92] and PwC[93] considered that there is insufficient data and a lack of formal input methodologies for a robust P_0 adjustment to be calculated. The Commission considers that a previous lack of available data is not a sufficient reason to dismiss the P_0 adjustment. The Commission will request more recent and additional information from EDBs to allow for the use of a partial building-blocks approach if this approach better promotes the Purpose Statement and meets the proposed Regulatory Principles.

127 Unison noted that given the uncertainty and adverse incentives introduced by a P_0 adjustment the Commission should commit to not applying any P_0 adjustments as a general feature of any future price-path thresholds.[94] Unison also expressed concerns that the Commission was only considering a P_0 adjustment as a result of the high ROIs reported by the EDBs in 2004.[95] The Commission disagrees with this observation. The Commission is aware that the 2004 ROI was inflated by revaluation gains, which were recorded in that year alone. As the Commission pointed out in its Discussion Paper, according to the ROI (and RPI) a number of EDBs' profits are very low. A P_0 adjustment can be used to allow these EDBs to increase their prices to allow for additional operational and capital expenditure, which should promote the long-term benefits for consumers.

87 Supra *N19*, p. 27, paragraph 66.
88 Supra *N24*, p. 4, paragraph 2d.
89 Supra *N22*, p. 24.
90 Babcock & Brown Infrastructure, *Regulation of Electricity Lines Businesses Targeted Control Regime Threshold Reset 2009 Discussion Paper – Response*, p 4.
91 Supra *N22*, p. 54.
92 Supra *N18*, p. 8 paragraph 21.5.
93 Supra *N19*, p. 45.
94 Supra *N45*, p. 20, paragraph 21.5.
95 Supra *N45*, p. 19.

128 Aurora considered that a P_0 adjustment will strip away profits made from efficiency gains, which would reduce incentives for future efficiency gains and innovation.[96] It supported an alternative approach with an overall efficiency benchmark, based on residual cost analysis, replacing the C_1 and C_2-factors. The Commission notes that a P_0 would share efficiency gains made in the previous regulatory period with customers. However, EDBs would retain the benefits from efficiency gains during the existing regulatory period. Moreover, the Commission disagrees with Aurora's proposed residual costs approach.[97] This approach is not transparent, is difficult, if not impossible to reproduce, and typically produces more volatile results than MTFP analysis.

129 The Commission notes that while the majority of submissions were against a P_0 adjustment being used, no opinion was offered on the validity of using P_0 to adjust for relative productivity levels as well as profitability. The Commission is of the view that the use of a P_0 adjustment to adjust for differences in efficiency levels may be difficult to implement. Thus, the Commission is of the opinion that a P_0 adjustment should not be used to remove efficiency gaps between EDBs. However, the Commission considers that the use of a P_0 adjustment to adjust profitability levels could effectively align the profitability levels of EDBs. This issue will be further considered by the Commission in the research it intends to undertake on the requirements of a P_0 adjustment.

3.4.3 Commission's Proposed Approach

130 The Commission is of the preliminary view that a profitability adjustment of some form is required in order to ensure that EDBs are limited from earning excess profits, consistent with the *Excess Profit Limiting Principles*. The Commission does not consider that this can be achieved by only taking account of productivity in setting the price-path.

131 The Commission considers that a P_0 adjustment, based on partial building-blocks and with sufficiently accurate information, is viable and may be more effective than a relative profitability factor in limiting excess profits and sharing the associated benefits with consumers. A P_0 adjustment may therefore promote both the *Excess Profit Limiting* and *Benefits Sharing Principles*. As such, the Commission is of the preliminary view that a P_0 adjustment should be further considered for inclusion as part of the price-path threshold. The Commission is of the view that a P_0 adjustment, if used, should only adjust for profitability and not be used to adjust for efficiency differences between EDBs.

132 The Commission has identified a number of key issues that it considers need addressing in order to carry out the analysis necessary to derive P_0 factors. These were set out in the areas for further research in section 3.1.

133 The Commission considers that the form and application of asset valuation methodologies is a particularly important issue. Under the existing Information Disclosure Requirements, EDBs must undertake a valuation of their system fixed assets using ODV, and undertake periodic ODV revaluations. In the Commission's final

---

[96] Supra *N23*, pp. 17-18.
[97] Supra *N23*, p. 11, paragraph 2.2.3.

decision on Transpower's post-breach inquiry,[98] the Commission accepted Transpower's proposed transition from ODV to un-indexed historic cost (DHC).[99] Moreover, in recent submissions on the Commission's proposals for implementing changes to Information Disclosure Requirements, EDBs were generally supportive of further considering whether a historic cost valuation method would be more appropriate than ODV.

134 The Commission has previously recognised that there are a number of benefits associated with historic cost valuation methods. In its 2004 discussion paper on implementing valuation choice for system fixed assets, the Commission set out its view that both its regulatory objectives and its regulatory principles could also be met by historic cost asset valuation methodologies.[100] Recognising this, and having considered the views of interested parties, the Commission has undertaken to consider other approaches to asset valuation. As a result, in the interim, the date for the next full ODV revaluation has been deferred to 31 March 2009.

135 The choice of asset valuation method is directly relevant to the setting of the productivity and profitability components of the price-path threshold. The productivity analysis to derive the X-factor and the measurement of profitability under the CPI-X price-path will be dependent on the asset valuation method used going forward. It is necessary to ensure that an appropriate approach to establishing the point estimate of asset values and an appropriate roll forward methodology is developed. The Commission intends to consider further the relative merits of different methods of asset valuation with a view to setting out its initial decisions in September 2008. The

---

98 Commerce Commission, *Decision and reasons for not declaring control of Transpower New Zealand Limited*, 13 May 2008.

99 The Commission previously supported Transpower moving to an IHC based approach but noted that DHC has an important advantage in that it usually leads to larger cashflows from an investment soon after it has been undertaken, than charging regimes based on current (or replacement) cost-based valuation methods, of which IHC and ODV are both variants. In the case of Transpower this was considered to be especially important given the magnitude of its proposed investments, and the fact that the associated capital expenditure often spans multiple years prior to commissioning. The Commission also notes that Transpower is not overall subject to a CPI-X price-path and therefore no inconsistency arises from the use of an un-indexed valuation approach under Transpower's thresholds.

100 Commerce Commission, *Implementing valuation choice for system fixed assets: Draft decisions and discussion paper*, 24 December 2004.

Commission's preliminary view is that ODV and IHC are likely to be more consistent with CPI–X thresholds than would the use of DHC.

136 Noting the impact that a change in the asset valuation approach would have on the setting of the thresholds, the Commission does not intend to set out the basis of the price-path in this paper as additional research is required.

137 Overall, the Commission considers that sufficient information (including consistent information on revenue, operating costs, asset values, depreciation and WACC) can be collected in order to calculate a P_0 adjustment. The Commission will undertake further research into the exact requirements of a P_0 adjustment based on partial building blocks, as well as researching the appropriate profitability target.

CHAPTER 4: INVESTMENT INCENTIVES

138 This chapter summarises both the Commission's initial views (as expressed in the Discussion Paper) and submissions, before setting out the Commission's preliminary views for a specific provision within the price-path threshold to incentivise network investment.

4.1 INTRODUCTION

139 The Commission engaged Farrier Swier Consulting ("FSC") to undertake research, FSC (2007), considering distribution network asset management in New Zealand and assessing future investment requirements.[101] The Discussion Paper set out the Commission's initial conclusions from this research.

140 Four main investment issues were considered in the Discussion Paper:

- drivers of investment in distribution networks;
- forward-looking investment requirements of EDBs;
- potential investment incentive mechanisms; and
- the use of accountability mechanisms.

141 Having considered submissions, the Commission outlines, in this section, its preliminary views and areas where it considers that further research may be required.

4.1.1 Summary of Preliminary Views

142 In summary, the Commission's preliminary views are that:

- EDBs in aggregate do not face an investment 'wall of wire' but a number have increasing investment requirements;
- the introduction of a specific mechanism to the price-path may be the most appropriate way to address significant (verifiable) investment requirements. However, based on data provided by the EDBs, investment requirements of EDBs for the regulatory period beginning 1 April 2009 do not merit such a mechanism; and
- if EDBs have additional investment requirements during the 2009-2014 threshold period, these should be addressed using customised thresholds.

143 These preliminary views are discussed further in the following sections: investment drivers (section 4.2), investment requirements (section 4.3), incentivising efficient investment (section 4.4), and investment accountability (section 4.5).

---

[101] Farrier Swier Consulting, *Distribution Networks and Asset Management*, December 2007.

4.1.2 Further Research

144 While the Commission intends to undertake further work to consider customised threshold arrangements for introduction from 2010, it does not intend to carry out further research on specific investment mechanisms as part of its threshold reset process.

4.2 INVESTMENT DRIVERS

145 This section sets out the Commission's preliminary views on the impact that investment drivers may have on potential investment incentive mechanisms.

4.2.1 Discussion Paper Proposals

146 The Commission sought views on the impact of investment drivers. These included a number of secondary drivers including regulatory obligations, environmental/locational factors and business specific circumstances.

147 The Commission set out its views on the two main drivers of investment – renewal and growth. Growth-driven investment facilitates increased throughput to meet increases in demand from load growth. Renewal-driven investment is the component of investment that sees failed assets or those nearing the end of their useful life being replaced by new assets. The Commission set out its initial view that load-growth-investment would in general be self-financing but there are a number of circumstances where renewal-investment may not be self-financing.

4.2.2 Submissions

Regulatory Obligations

148 Submitters provided a range of examples of regulatory obligations that they considered would impact on investment decisions. Aurora noted that obligations in relation to health and safety, and the environment, do not currently impact significantly on investment decisions but that changes in these areas would directly impact on EDBs through higher prices from contractors for maintenance and capital projects.[102] Orion,[103] PwC,[104] and Powerco[105] cited a range of obligations including changes to the Electricity Act, health and safety regulations, land transport issues, tree regulations, loss regulations and local government requirements. The Commission notes that, while a range of regulatory obligations may well impact an EDB's investment decisions, none of these is likely to have a material impact. The Commission therefore considers that the influence of these additional regulatory obligations on investment decisions is likely to be minimal.

102 Supra *N23*, p. 19.
103 Supra *N18*, p. 26.
104 Supra *N19*, p. 45.
105 Supra *N26*, p. 39.

149 Powerco noted that the regulatory regime should be sufficiently durable to accommodate not just the existing regulatory arrangements but future regulatory and technological changes as well.[106] As an example, Powerco cited a number of energy efficiency issues. The Commission agrees that some flexibility in the arrangements to accommodate potential change is desirable. Equally the Commission stresses that arrangements must be developed in relation to the existing regulatory framework and any flexibility must be within that context. The Commission recognises the relevance of issues of energy efficiency and notes that it is considering a range of approaches to address these within the context of the threshold arrangements. Those issues are discussed in further detail in section 6.8.

Business-specific Factors

150 AECT[107] and Eastland[108] identified a range of business-specific circumstances that may impact on the level of investment by an EDB. These included EDB size, network density, geographic location and regional weather patterns. Powerco considered that a company's actual costs should be accommodated within any threshold investment factor.[109] The Commission recognises that there are a range of business-specific factors that may influence investment decisions, and considers that the best approach for dealing with such specific circumstances may be the use of customised thresholds.

151 The CPI-X price path threshold already makes explicit allowance, by broad category, for differences in the starting point productivity and profitability of lines businesses. In resetting the thresholds, the Commission will consider whether it is appropriate, given significant economies of scale in electricity distribution and the wide range of electricity distribution businesses sizes, for the CPI-X price path threshold to make allowance also for the effects, or limitations, of size.

Renewal and Growth Investment

152 Submissions on investment drivers considered that renewal-investment would not be self-financing, because of the magnitude of renewal investment facing EDBs and the increasing costs of that work. Powerco noted that there is no additional revenue associated with replacing an existing asset.[110] The Commission agrees with submitters that there are a number of circumstances in which renewal investment would not be self-financing. Asset renewal does not generally attract revenue increases that offset the investment as electricity distribution assets typically do not have a flat age profile.

153 A number of submitters highlighted circumstances in which they considered growth expenditure would not be self-financing. Vector outlined a number of factors including localised capacity constraints where reinforcement does not result in new volumes commensurate with the extent of investment, security of supply issues that arise as the network grows, reliability investments (if not funded through any other provision, i.e.,

---

106 Ibid, p. 39.
107 Supra *N22*, p. 25.
108 Supra *N27*, p. 5, paragraph 3.8.
109 Supra *N26*, p. 40.
110 Ibid, p. 40.

an incentive mechanism that rewards EDBs for reliability improvements such as an S-factor), and input price inflation.[111] The Commission recognises that there are circumstances where load growth may not be self-financing. The Commission considers it appropriate to deal with such issues on a case-by-case basis.

154 Three submitters identified aspects of the regulatory framework that may have a bearing on whether load growth is self-financing. PwC considered the ability of future cash flows to finance growth-investment may be constrained by regulatory parameters based on historic cost levels and historic demand.[112] Marlborough considered that, while growth investment may be self-financing in the long-term, it may not be over a shorter five-year threshold period.[113] Eastland considered that the threshold regime failed to allow investors to receive acceptable returns on their investments and that it resulted in growth related investments not being self-financing.[114] The Commission agrees it is important that the threshold arrangements provide appropriate returns on investments and that the form of arrangements could have a bearing on whether growth investment was self-financing. The Commission notes that an advantage of a price-path as opposed to a revenue path is that growth is more readily accommodated.

155 Orion suggested that whether load growth would be self-financing at the existing average price would depend on the marginal cost of serving that growth relative to the average cost of serving existing load.[115] It identified disproportionate growth in the fringe areas of the network, and increases in the unit replacement costs of assets as reasons why the marginal cost of growth might currently be greater than the average costs. The Commission recognises that the marginal cost of serving new growth may be different from the average cost of serving existing load. In light of this, the Commission notes that the extent to which revenue recovered from new growth investment is self-financing is a function of the capital contribution received from the customer and the ongoing tariff revenue. The relationship between the marginal cost of the new growth and the average cost of the existing load should therefore be considered as part of the capital contribution assessment, and the EDB should seek a capital contribution from the new customer for the difference.

156 ENA noted that it was impossible to separate renewal and growth related expenditure as many investments included elements of both.[116] The Commission agrees that there is an interaction between the two categories of investment. In its Discussion Paper, the Commission noted that growth related investment can have a significant impact on renewal investment forecasts and therefore that there are circumstances where it may be difficult to separate renewals from growth driven investment. However, where growth related investment impacts on renewal investment it should be reflected in renewal investment forecasts, and where those forecasts demonstrate the requirement for an investment provision then that should be provided for in the price-path.

---

111 Supra *N25*, p. 32-33, paragraph 144.
112 Supra *N19*, p. 30, paragraph 77.
113 Supra *N20*, p. 3.
114 Supra *N27*, p. 6, paragraph 3.9.
115 Supra *N18*, p. 27.
116 Supra *N22*, p. 56.

157 A number of submitters considered that whether or not load growth would be self-financing would be affected by the magnitude of the investment. Powerco set out its view that while the additional revenue associated with load growth is generally sufficient to cover the costs of new connections, the additional load often requires other elements of the power system to be upgraded to provide 'up-stream capacity', and the additional revenue provided by new connections may be insufficient to meet that additional expenditure.[117] In Powerco's view, investment incentives also need to provide for growth related expenditure, particularly where this may not have dedicated users and/or demand growth needs to be delivered over time to deliver revenues to pay back the investment. The Commission recognises that load growth may not be sufficient to cover the costs of new connections in circumstances where increases in peak demand outstrip average energy growth. The justification for investment in upgrading other parts of the power system would be to ensure that demand for usage of the network can be met. The increase in throughput would be driven by either customer specific load growth or by load growth across the network and therefore the costs would generally be financed by either the demand of the specific customer or more widely by local customers.

158 Similarly, both AECT[118] and Aurora[119] considered that where exceptional load growth occurs then insufficient revenue would be recovered from customers to meet the step-change in investment. AECT noted that this was particularly likely to be the case where an EDB chose to invest in a change in new technology. The Commission agrees that new technology may involve additional costs but would not expect an EDB to invest in more expensive technology unless that technology reduced the marginal and/or lifetime cost of the investment.[120] This issue is considered in further detail in section 4.4.

4.2.3 Commission's Proposed Approach

159 A range of factors determine whether investment is self-financing and those factors apply whether investment is driven by growth or renewal. Factors that impact on investment include the cost of replacement assets, when an asset is replaced in its life cycle, whether the investment is lumpy or incremental, and the EDB's approach to asset management.

160 The Commission, therefore, recognises that business-specific factors will impact on investment requirements, including circumstances where growth related investment will not be self-financing and renewal investment may be self-financing. The Commission considers that where such factors are relevant they may be best addressed through a customised threshold. This option is discussed in section 4.4.

---

117 Supra *N26*, p. 40.
118 Supra *N22*, p. 25.
119 Supra *N23*, p. 19.
120 The Commission notes that an EDB may invest in new technology to improve safety or reliability.

4.3 INVESTMENT REQUIREMENTS

161 This section sets out the Commission's preliminary views on the EDB's investment requirements and the need for a specific investment mechanism in the thresholds.

4.3.1 Discussion Paper Proposals

162 The Commission set out its view that any investment incentive mechanism should only apply where there is sufficient evidence and justification. FSC (2007) concluded that the New Zealand distribution companies are not facing a large imminent increase in investment, i.e., a 'wall of wire'. However, it noted that a number of EDBs may experience relatively large increases in their investment requirements in future regulatory periods.

4.3.2 Submissions

Potential for a 'wall of wire' in renewal investment

163 No EDB specifically stated that it was facing a 'wall of wire'. However, the majority of submitters that commented on forthcoming investment requirements considered that the focus of any analysis should not be on whether or not there is a 'wall of wire', but on incremental increases in investment requirements. The Commission considers this position aligns with the view set out in its Discussion Paper, which considered investment both across the industry and at the individual EDB level.

164 ENA considered the focus should be on whether individual threshold price levels provide an adequate return for the forecast investments required to maintain service levels, and that the analysis of this should be undertaken at the individual EDB level rather than across EDBs.[121] Powerco set out its view that the most important consideration was whether an individual EDB could undertake the amount of renewal investment it needed, and that the necessary coincidence of this need for all EDBs should not impact on the development of an incentive mechanism.[122] The Commission notes that in its Discussion Paper it did not propose to limit the application of an incentive mechanism to a situation where all EDBs required additional investment; rather, it set out the Commission's view that it may be appropriate to develop an incentive mechanism to apply where individual EDBs have increased investment requirements.

Analysis of investment requirements

165 Some submitters questioned the basis of the analysis undertaken by FSC and the Commission's reliance on that analysis.

166 PwC considered that forecasting renewals expenditure based purely on the expected age of assets was overly simplistic, and that consideration should be given to the difference

---

121 Supra *N22*, p. 57.
122 Supra *N26* ,p. 41.

between the physical replacement of assets and replacement costs.[123] The Commission accepts the view that purely asset-age forecasting simplifies a number of issues when compared with condition or risk forecasting. Indeed, such a view was expressed by FSC, (FSC (2007)), in its analysis of differing asset management techniques.[124] This method was used for a number of reasons, including the need to consider a large number of EDBs and varying levels of detail and accuracy in asset information and a lack of consistent asset management methodologies.

167 PwC also noted that analysis of replacement cost data over the 2006-07 period indicated substantial input cost increases since 2004, so that additional nominal investment was needed in 2007 to achieve the same level of physical additions as in 2004.[125] The Commission notes there are inherent inaccuracies in the use of general estimators as specific cases will naturally vary from the average. However, as the forecast period used in FSC (2007) covers the next ten years, it would not be reasonable to project a sustained level of above-average asset cost increases for this period. It is also possible that asset replacement costs may decrease relative to CPI over this period. The Commission also notes that it will consider input price differentials between the industry and the economy in its resetting of the B-factor in the price thresholds.

168 Both ENA[126] and PwC[127] considered that the Commission should place more weight on EDBs' Asset Management Plans (AMP) than the findings of the FSC report. The Commission notes the findings of FSC (2007) were reached after consideration of data from EDBs' AMPs. Moreover, the Commission provided EDBs with a copy of the FSC (2007) report prior to its publication, and specifically sought views on matters of factual accuracy. EDBs had the opportunity to highlight any areas where information from their AMPs had not been accurately reflected in the report. FSC made a number of changes to its report to reflect EDB comments, but no material issues were raised. The Commission further notes that the degree of variance between the information provided in the AMPs makes it impracticable to undertake a consistent assessment between EDBs using this information alone. In addition, alternative approaches, such as individual audits of each EDB renewal forecast, would have added significant additional cost and complexity to the process and therefore would be inconsistent with the *Cost-Effectiveness Principle*. However, the Commission can confirm that the AMPs of the EDBs will be considered in further detail when assessing the specific investment requirements of an EDB, whether in setting a customised threshold or determining the requirement for an I-factor.

169 Powerco noted that Table 7[128] in the Discussion Paper had not fully reflected the results of FSC's analysis as it does not show the projected increases in investment after 2019.[129] The Commission notes that the purpose of including this table was to consider

---

123 Supra *N19*, p. 29 paragraph 76 and p. 32 paragraph 88.
124 FSC (2007) considered the merits of different approaches including age, condition and risk based management.
125 Supra *N19*, p. 32, paragraph 87.
126 Supra *N22*, p. 57.
127 Supra *N19*, p. 31, paragraph 85.
128 Supra *N*5, p. 51.
129 Supra *N26*, p. 41.

the requirement for an investment incentive mechanism from 2009 by comparing the investment requirements with the subsequent threshold period. However, the Commission concurs that significant investment requirements were forecast by FSC going forward and that this may provide additional justification for the introduction of an investment incentive mechanism for future threshold periods.

170 Vector considered that the use of a depreciation proxy provides a misleading portrayal of relative investment to depreciation requirement unless the Commission proposed to use Meyrick's depreciation proxy of 4.5% of ODV, as set out in Meyrick (2007a), [130] in determining the ROIs.[131] Moreover, while agreeing with the Commission's view that lines businesses have alternative sources of funding other than operating cashflows to support investments, Vector considered the key point was whether the price-path provided sufficient returns on the grounds that, if returns were insufficient then investment would not be forthcoming. The Commission agrees that an important consideration is whether the thresholds provide sufficient returns to incentivise investment, and considers that a price-path comprised of productivity and profitability components is an appropriate approach to ensure EDBs have sufficient revenue. The Commission recognises that there are circumstances where some EDBs may require additional investment, and notes that this is the justification for considering the need for specific investment incentive mechanisms. On the use of a depreciation proxy, the Commission notes that this figure was based on earlier work by NZIER (2001),[132] and that Meyrick tested its reasonableness against the depreciation series reported by the EDBs under the Information Disclosure Requirements regime. Meyrick (2007a) concluded that the proxy series exceeded the Information Disclosure Requirements data by around 25% in 2005 and 2006. The Commission therefore concurs with Meyrick (2007a) that, overall, the depreciation proxy used in setting the existing price thresholds provides a generous coverage of replacement investment requirements and that the actual level would be lower.

171 Some submitters also highlighted specific issues with FSC's analysis. AECT noted that if asset replacement was like-with-like then renewals may be in line with FSC forecasts but noted that if customer reliability requirements changed, or more expensive technology was used, then the investment requirements may be higher.[133] The Commission notes that investing in better technology should also reduce the marginal and/or lifetime cost of the investment, otherwise there would be no reason to invest in a more expensive technology. In circumstances where customer reliability requirements change, there is often an increase in the energy and customer density of the area being served. Increased customer requirements are more akin to growth driven investment and should tend towards being self-financing.

172 Powerco questioned why 30% was chosen as the definition of a moderate increase in renewal expenditure but set out the view that a number of EDBs were approaching this benchmark and may require significantly increased investments in the coming

130 Meyrick and Associates, *Pricing and Investment Incentives*, November 2007, p. 37.
131 Supra *N25*, p. 32, paragraph 143.
132 NZIER, *Analysis of lines business costs: Report prepared for MED*, 2001.
133 Supra *N22*, p. 26.

regulatory period.[134] The Commission notes that the use of 30% as representing a moderate increase in renewal expenditure is based on the spread of forecast expenditures for the EDB group. The expenditure forecasts were based on five-year periods. Renewal expenditure is only one component of overall EDB expenditure and the 30% change in this component occurs over a five-year period, i.e., less than 6% per year. A 6% (or less) change on a per-annum basis does not represent a step change in investment requirements. The Commission notes that whether or not there is a number of EDBs approaching this level is not in itself a sufficient justification for an increased renewal investment provision for those businesses. Such increases reflect smoothly increasing investment profiles and not step-changes in investment requirements that would necessarily require additional investment provisions.

4.3.3 Commission's proposed approach

173 In light of submissions, the Commission's view is that the electricity distribution sector as a whole does not face a 'wall of wire'. However, the Commission also recognises that a number of EDBs will have increasing investment requirements and that some may be of a significant nature over time, particularly from 2014 onwards. Future proposals will need to consider the *Investment, Accountability,* and *Appropriateness Principles*.

4.4 INCENTIVISING EFFICIENT INVESTMENT

174 This section sets out the Commission's preliminary views on a potential mechanism to incentivise efficient investment.

4.4.1 Discussion Paper Proposals

175 The Commission outlined a range of mechanisms for incentivising efficient investment in its Discussion Paper.

176 The Commission set out its view that approaches involving detailed capital expenditure reviews, K-factor, or menu-based approaches would not be appropriate given the size of New Zealand's electricity industry. The Commission also considered a mechanism based on an annuitised user cost of capital, but the Commission noted that there were a number of significant implementation issues with this approach including the possible need for large P_0 adjustments at the outset, which could result in price shocks.

177 The Commission outlined an approach involving the introduction of an incentive factor (I-factor) to the price-path threshold. The factor would provide for increased investments, resulting from ageing assets, and could be determined by EDBs' renewal needs. The Commission noted that the I-factor mechanism should apply only in exceptional circumstances. On the basis of the FSC (2007) analysis, the Commission concluded that an I-factor was unlikely to be required during the regulatory period beginning in 2009.

178 The Commission introduced another possible approach to address additional investment requirements using customised thresholds. The Commission's initial view was that this

[134] Supra *N26*, p. 41.

may be the most appropriate approach to account for any individual EDB renewal requirements during the 2009-2014 threshold period.

4.4.2 Submissions

I-factor

179 Eight submitters supported the I-factor mechanism as improving regulatory certainty, cost-effectiveness and appropriateness. Orion,[135] Powerco,[136] and PwC[137] all noted that such an approach would be preferable to the post-breach inquiry 'route', which they considered to be risky, costly and time consuming. The Commission notes the support of submitters for the introduction of the I-factor as a means of allowing EDBs additional revenue to facilitate efficient investment. The Commission considers that, where additional investment is required, this approach will promote the *Investment Principle*.

180 Babcock & Brown,[138] ENA,[139] PwC,[140] and Vector,[141] while supporting the I-factor approach, noted that the biggest contribution the Commission could make to ensuring appropriate investment incentives, would be to finalise its regulatory principles and guidelines thereby providing greater certainty, transparency and predictability. The Commission agrees that regulatory principles and guidelines will provide greater certainty and will therefore form an important component of the regulatory arrangements. However, the Commission notes that the regulatory principles and guidelines will not be finalised before July 2010, while the Commission intends to put in place revised thresholds from 1 April 2009.

181 Vector noted that there was a strong inter-linkage with the C_2-factor and the need to ensure that investors can receive an appropriate return on their investment.[142] The Commission agrees with this view and considers that the combination of productivity and profitability components is an appropriate way to ensure EDBs can receive an appropriate return on their investment. However, the Commission recognises that there may be circumstances where EDBs need to undertake additional investment and an additional provision may be required.

182 Eastland,[143] Orion,[144] and Unison[145] all highlighted the role of uncertainty as a barrier to innovative investment decisions and the need for any arrangement to target reductions in uncertainty. Orion noted that, while an I-factor would be a positive development, it would do little to improve incentives overall unless the Commission provides clear guidance regarding the regulatory treatment of future capital

---

135 Supra *N18*, p. 20, paragraph 60.
136 Supra *N26*, p. 42.
137 Supra *N19*, p. 33, paragraph 92.
138 Supra *N90*, p. 3.
139 Supra *N22*, p. 55.
140 Supra *N19*, p. 29, paragraph 73.
141 Supra *N25*, p. 31, paragraph 135.
142 Supra *N25*, p. 31, paragraph 137.
143 Supra *N27*, p. 7, paragraph 3.14.
144 Supra *N18*, p. 28.
145 Supra *N24*, p. 5.

expenditure.[146] In particular, Orion highlighted the lack of a clear framework for the valuation of assets as weakening and distorting EDB incentives for efficient investment. The Commission considers that ensuring there is a provision whereby EDBs can secure an appropriate return on efficient investment may reduce uncertainty. The Commission also considers that its proposed review of its Assessment and Inquiry Guidelines will ensure greater certainty is provided to EDBs. This is discussed in further detail in chapter 6.

183 Aurora set out its views as to how the I-factor approach could be applied.[147] It considered that the I-factor should apply where the forecast for non-growth expenditure exceeds depreciation for the regulatory period. It also considered that the I-factor may need to be discounted, or the B-factor increased, to recognise and share the dynamic efficiency gains that should be occurring. The Commission agrees that these are all relevant considerations for the development of the I-factor.

184 A majority of submitters considered that the I-factor should be introduced from 2009. Powerco considered the I-factor was necessary as nine EDBs potentially face renewal investment increases of 20% or more.[148] PwC noted that, given renewal expenditure is currently significantly above the levels invested when the existing thresholds were set and the projections are for further increases, it would be inappropriate to conclude that the I-factor was not required for the 2009 reset.[149] It further noted that an advantage of introducing the I-factor from 2009 would be that lessons learned from its application over this next threshold period would assist in refining the approach for future periods, when it may apply to more EDBs. AECT considered that the I-factor mechanism holds promise and the earlier its introduction the better.[150] Eastland set out its view that the definition of the appropriate incentive mechanism needs sufficient time for deliberation and implementation and therefore should be developed for introduction in 2014.[151]

185 The Commission notes the support for the introduction of an I-factor from 2009 but considers that there is not a sufficiently strong case for its introduction in this threshold reset. Evidence from both FSC (2007) and from the EDBs' own AMPs does not support the view that EDBs are facing exceptional increases in investment expenditure during this period that would merit an additional investment provision. Analysis supported by information from the EDB's AMPs suggests that only two EDBs may face moderate increase of a magnitude of 6% per annum or higher. This suggests that, for the most part, EDBs are likely to face smoothly increasing investment profiles during the 2009-2014 threshold period. On this basis, there would not be a requirement for an I-factor mechanism during the forthcoming threshold period.

186 The Commission therefore considers that it would be appropriate to delay the introduction of an I-factor until 2014, which is when the existing evidence suggests that a number of EDBs will face significant increases in their investment requirements that

146 Supra *N18*, p. 20, paragraph 60.
147 Supra *N23*, pp. 13/22.
148 Supra *N26*, p. 42.
149 Supra *N19*, pp. 32/33, paragraphs 90-92.
150 Supra *N22*, p. 27.
151 Supra *N27*, p. 7, paragraph 3.15.

would merit the provision of an I-factor. The Commission recognises that some EDBs may require investment provisions in this threshold period, but that these should be addressed on a business-specific basis through customised threshold arrangements. Under customised thresholds, an EDB would be able to bring forward a proposal for its threshold parameters based on a number of factors, including its investment requirements. The Commission would assess each proposal and determine whether to accept or reject it. The Commission would need to undertake further work to determine the basis of customised threshold arrangements including the grounds on which it would assess proposals. This issue is discussed in further detail later in this section, and in chapter 6.

Other investment incentive mechanisms

187 There were few comments on other proposed investment incentive mechanisms as outlined in the Discussion Paper. Aurora opposed the annuitised user cost of capital mechanism on the basis of the uncertainty that would arise from its application and associated large P_0 adjustments.[152] The Commission notes that there was little interest in other proposed approaches to incentivise efficient investment. Further, the Commission agrees with the views raised regarding the weaknesses of an annuitised user cost of capital mechanism and, in particular, that such an approach may be inconsistent with the *Certainty Principle*.

188 Unison considered that it was more important to remove disincentives than to consider incentives to invest and that the investment issue would be best addressed through a customised price-path approach.[153] PwC also noted that customised terms could achieve similar outcomes to an I-factor by way of a propose/respond model.[154] The Commission agrees that the provision of customised terms is likely to increase certainty and provide for additional efficient investment and therefore to promote the *Efficiency Principle*, *Certainty Principle* and *Investment Principle*. The Commission also notes that submissions generally supported the proposal to introduce customised thresholds. Recognising that investment needs are largely based on business-specific circumstances, and that it does not propose to introduce an I-factor in 2009, the Commission considers that customised thresholds may be an appropriate approach to address specific investment requirements during the forthcoming threshold period. By reflecting business-specific requirements for additional investment the Commission considers that this approach would promote the *Appropriateness Principle*.

4.4.3 Commission's Proposed Approach

189 The Commission's view is that the investment requirements of the EDBs do not merit the introduction of an I-factor from 2009. Therefore, the Commission does not propose to develop such an approach at this stage. Given that the evidence suggests that a number of EDBs are likely to face significantly greater investment requirements from

152 Supra *N23*, p. 21.
153 Supra *N24*, p. 5.
154 Supra *N19*, p. 49.

2014, the Commission proposes to reconsider this option in the subsequent threshold reset.

190 The Commission considers that where EDBs do have additional investment requirements during the 2009-2014 threshold period, then these should be addressed through customised thresholds. In order to facilitate customised threshold arrangements the Commission would be required to develop the basis of those arrangements. Among the factors which would need to be determined would be the process for seeking a customised threshold, the scope of those thresholds and the approach for assessing applications. The Commission proposes to consult on the form of customised thresholds in early 2009 with a view to developing arrangements for implementation during 2010. As noted above, this is consistent with the *Efficiency Principle*, *Certainty Principle* and *Investment Principle*.

4.5 INVESTMENT ACCOUNTABILITY

191 This section sets out the Commission's preliminary views on investment accountability mechanisms.

4.5.1 Discussion Paper Proposals

192 The Commission set out its view that if a specific mechanism for investment incentives was introduced, EDBs should be accountable for any allowances provided under the mechanism.

193 Two potential forms of accountability mechanism were examined in the Discussion Paper. The first was an explicit claw-back arrangement, while the second was a P_0 adjustment. The Commission expressed concern that claw-back arrangements would not provide the right incentives for businesses in terms of promoting efficiency. On that basis, the Commission considered that a P_0 approach may be a better form of accountability mechanism as it would provide greater incentives for EDBs to seek efficiencies in their expenditure programmes to keep under-spend from efficiency gains during that regulatory period.

194 Regardless of the approach adopted the Commission noted that enhanced reporting requirements would be necessary to monitor EDB expenditure against any investment incentives provided under the thresholds.

4.5.2 Submissions

Introduction of accountability mechanism

195 Submitters supported the introduction of an accountability mechanism to underpin an investment incentive provision. They broadly considered that the onus should be on EDBs to demonstrate that they have undertaken the required investment. Eastland considered that the application of an accountability mechanism would be consistent with the proposed Regulatory Principles outlined in the Discussion Paper.[155] Orion

[155] Supra *N27*, p. 8, paragraph 3.16.

noted that it would be difficult to establish a mechanism capable of distinguishing between legitimate out-performance through improved efficiency and deliberate capital under-spend.[156] Similarly, PwC, while supporting an accountability mechanism, considered that under-spend should not be penalised if it reflects higher than expected levels of efficiency.[157] AECT cautioned that there are factors outside the control of EDBs that could impact on a business' ability to undertake investment.[158]

196 The Commission acknowledges the support for an accountability mechanism and considers that such a mechanism is appropriate to ensure EDBs invest efficiently. This would promote the *Efficiency Principle*. For the same reason, the Commission agrees with the need to determine whether under-spend is the result of greater efficiency or factors outside of the control of EDBs. This would have to be addressed within the design of any accountability mechanism.

Application period of accountability mechanism

197 All submitters commenting on the accountability mechanisms agreed that they should apply from either the end of a regulatory period or the beginning of the next regulatory period, i.e., it should apply to the five-year threshold period. Powerco considered that this was necessary because of the nature of electricity investments, which can have long lead times between planning and installation.[159] PwC considered that to do otherwise would reduce incentive effects.[160]

198 The Commission agrees with the submitters that the accountability mechanism should apply from the beginning of a regulatory period. Applying the mechanism within a regulatory period would add additional complexity and uncertainty. Applying the mechanism from the beginning of a regulatory period would be consistent with both the *Appropriateness Principle* and the *Certainty Principle*.

Form of accountability mechanism

199 A range of comments were provided on the most appropriate method of providing accountability.

200 Powerco noted that it would be important to ensure that the accountability mechanism did not evolve into a detailed capital expenditure review.[161] ENA considered that the approach adopted needed to be more sophisticated than simply requiring an EDB to spend all of its forecast capital expenditure to preserve incentives on the EDB to minimise costs.[162] The Commission agrees with the view that an accountability mechanism should not evolve into a detailed capital expenditure review nor, on the other hand, should it be based on a simple requirement to spend all forecast expenditure.

---

156 Supra *N18*, p. 29.
157 Supra *N19*, p. 49.
158 Supra *N22*, p. 28.
159 Supra *N26*, p. 43.
160 Supra *N19*, p. 49.
161 Supra *N26*, p. 43.
162 Supra *N22*, p. 58.

The former approach would not be consistent with a threshold regime while the latter would not provide the appropriate incentives for efficiency.

201 Aurora supported the UK's sliding-scale method as the most appropriate basis for determining the claw-back of under-spend.[163] AECT[164] and Powerco[165] considered that accountability should be provided through the Information Disclosure Requirements. The Commission considers that, while it has merits, the UK sliding-scale approach is too complex for use in conjunction with thresholds and thus would be inconsistent with both the *Cost-Effectiveness Principle* and *Appropriateness Principle*. Rather, a mechanism is required that enables the monitoring of investment and consideration of the reasons for the variance of expenditure from the EDBs estimates, which is important to ensure that EDBs are rewarded for efficiency. Information Disclosure Requirements may achieve the purpose of monitoring expenditure, but a more rigorous assessment process would likely be required to support it.

202 PwC considered that an accountability mechanism could take the form of a modified I-factor in the following threshold period or a P_0 adjustment at the beginning of the next period.[166] The Commission considers that both these approaches could form the basis of an effective accountability mechanism.

4.5.3 Commission's Proposed Approach

203 The Commission considers that if a specific mechanism for investment incentives was introduced, EDBs should be accountable for any allowances provided under the mechanism. Should such an investment incentive be introduced the Commission will develop, in consultation with interested parties, a suitable accountability mechanism.

204 Under its current proposals for providing appropriate investment incentives under the threshold arrangements to apply from 1 April 2009, the Commission would develop an accountability mechanism as part of the customised thresholds consultation process. An accountability mechanism would not be required until customised threshold arrangements are developed, which will be during the next regulatory period. This is consistent with the *Efficiency Principle*, the *Certainty Principle* and the *Investment Principle.*

---

163 Supra *N23*, p. 22.
164 Supra *N22*, p. 28.
165 Supra *N26*, p. 43.
166 Supra *N19*, pp. 49/50.

CHAPTER 5: QUALITY

205 This chapter summarises the Commission's initial views, as expressed in the Discussion Paper and provides the Commission's response to the views submitted by interested parties. This chapter also sets out the Commission's intention to undertake additional analysis before forming its preliminary view on the form of the next quality threshold.

5.1 INTRODUCTION

206 The existing quality threshold includes reliability criteria and a customer communication criterion (consumer engagement). The objective of the existing reliability criteria is to provide incentives for EDBs to maintain their reliability performance. This approach was adopted at that time because there was insufficient information to make decisions regarding appropriate requirements for EDBs to improve network reliability. The Discussion Paper set out the Commission's preliminary view that sufficient information is now available to determine where reliability improvements are warranted.

207 The Discussion Paper also set out the Commission's concept for the introduction of an S-factor incentive mechanism into the price-path threshold, i.e., CPI-X+S. The S-factor is proposed to be linked to the reliability performance of each EDB in relation to its identified peer group.

208 The consumer engagement criterion was discussed in section 2.5. The remainder of this chapter focuses on the reliability criteria.

5.1.1 Summary of Preliminary Views

209 In summary, the Commission's preliminary views are that:

- additional work should be undertaken to determine whether consumers' marginal willingness to pay for further reliability improvements exceeds the marginal costs of achieving them, and hence, whether EDBs should be required to improve the level of network reliability;
- submitters have not provided evidence to indicate that peer grouping of EDBs is not appropriate and, on that basis, the Commission should continue to investigate whether peer groups provide appropriate benchmarking to assess an EDB's performance relative to its peers;
- the thresholds should provide appropriate incentives on EDBs to invest efficiently and to consider how best to improve reliability performance;
- further research should be undertaken into the S-factor;
- normalising data to account for extreme events is appropriate;
- normal variability of data should be accounted for;
- separate quality thresholds for non-contiguous networks will be further considered; and

- additional service quality incentives should be implemented through revisions to the Information Disclosure Requirements.

210 These preliminary views are discussed further in the following sections: proposed new objective for the quality threshold (section 5.2), benchmarking (section 5.3), threshold levels (section 5.4), price-quality trade-offs (section 5.5), refinements to data (section 5.6) and further quality incentives (section 5.7).

5.1.2 Further Research

211 Prior to establishing the basis on which to make its initial decisions on these matters, the Commission intends to undertake further research on the appropriate form of the quality thresholds, whether improvements will be required of EDBs, and the incentive mechanisms to be implemented before setting out its initial decisions in September 2008.

5.2 OBJECTIVE OF THE QUALITY THRESHOLD

212 Where regulated entities are constrained only by price, incentives exist to maximise profit by reducing costs. Over time, this can adversely affect the reliability of supply. For this reason the quality threshold is complementary to the price-path threshold, and the objective of the two thresholds is to provide an appropriate balance between price and quality.

5.2.1 Discussion Paper Proposal

213 The Commission, in its Discussion Paper, proposed setting the following objective for the Quality Threshold:

The threshold should ensure that EDBs seek to promote appropriate performance targets while complying with the price-path threshold. To do so the threshold should:

i. identify peer groups of EDBs with similar characteristics, allowing meaningful comparison of relative performance;

ii. be set in such a manner so as to provide incentives for poor performing EDBs to considerably improve reliability;

iii. be set in such a manner so as to provide incentives for average performing EDBs to improve reliability; and

iv. provide incentives such that good performing EDBs will attempt to maintain, or to the extent consumers demand, continue to improve performance.

5.2.2 Submissions

214 Both Powerco and PwC considered that there was no need for an explicit objective to improve performance. Powerco considered that the existing reliability criteria already

requires improvement in reliability as the thresholds are specified in averages while the evaluation is against annual performance, and to avoid breaching the threshold requires EDBs' performance every year to be better than the average.[167] PwC considered that the historical trend for improving reliability from 1994 to 2003 highlighted that the industry has a record of improving reliability.[168]

215 The Commission agrees that the existing quality threshold mechanism does require improvements if an EDB wishes to remain within its threshold. Likewise, if the quality threshold in the subsequent regulatory period was established on the same basis as the existing threshold, and assuming that the EDB did not breach its reliability threshold during the existing regulatory period, the revised threshold would be lower than that in place at present – effectively requiring more improvements.

216 However, the Commission's preliminary research suggests that the range of reliability performances of EDBs within a given peer group appears to diverge significantly. The Commission intends to investigate further the reasons for, and appropriateness of, these divergences. Where the Commission finds that an EDB provides network reliability at a level below that considered appropriate, the Commission's current view is that reliability improvements should be required. The Commission acknowledges that it may be appropriate to set objectives that require reliability to align with consumer preferences, but notes that further consideration of this issue is required.

217 The Commission also notes that peer grouping is a method by which to measure reliability performance. It is therefore a means by which to achieve the objectives of the quality threshold, rather than an objective in itself. The Commission proposes to remove the reference to peer grouping from the quality objective.

5.2.3 Commission's Revised Objectives

218 The Commission has refined its stated objective as follows:

The Commission's objective is to promote the provision of network reliability at an appropriate level for the prices charged. To achieve this, the Commission will establish a reliability threshold that:

i) identifies EDBs that do not meet minimum reliability performance standards;

ii) takes into account consumer preferences;

iii) is cognisant of the differences in EDBs;

iv) targets an appropriate balance between prices charged and network reliability;

v) provides incentives for reliability to be provided at an appropriate level; and

---

167 Supra *N26*, p. 27, paragraph 8.1.
168 Supra *N19*, p. 35, paragraph 102.

vi) *provides incentives such that good performing EDBs will maintain, or to the extent consumers demand, continue to improve performance.*

5.3 BENCHMARKING

5.3.1 Discussion Paper Proposals

219 In its Discussion Paper, the Commission proposed to peer group EDBs as a means of assessing their relative performance. The proposed approach established peer groups based on comparable network characteristics such as ICP density, network structure and percentage of network undergrounding, as well as a review of normalised historical performance. Once each EDB has been assigned to a peer group, performance bands would be calculated to indicate whether each EDB would be categorised as a below-average, average or above-average performer.

5.3.2 Submissions

220 The main argument raised by submitters was that any proposed basis for peer-grouping would be subjective and arbitrary. Marlborough believed it was practically impossible to reflect the differences between characteristics such as EDBs' terrain and accessibility.[169] PowerNet noted that each EDB has its own unique characteristics and peer groups would provide no better analysis, only more information to analyse.[170] Orion noted that all EDBs differ to some extent and therefore it would prove challenging to construct a set of criteria that are mutually exclusive and collectively exhaustive to group EDBs on a like-with-like basis.[171] Unison considered that peer-grouping could not reflect factors such as inherited network structures, network capability and consumers' willingness to pay.[172]

221 ENA noted that one consequence would be that an EDB could be top of one group or bottom of another depending on an arbitrary cut-off point and that such an outcome would be inconsistent with the *Certainty Principle* and the *Robustness Principle*.[173] Vector considered there would be a high probability of making illegitimate comparisons between EDBs, which would penalise some EDBs.[174]

222 The Commission notes that although submitters did not support the use of peer grouping, no compelling reasons against its use were provided. The Commission is of the view that New Zealand, having 28 distribution businesses, may be a case where benchmarking can be used to assess the relative performance of those EDBs. Although there may be differences between individual companies, the Commission is of the view that those differences do not make businesses so unique that individual EDBs cannot be assigned to a particular peer group.

---

169 Supra *N20*, p. 3.
170 Supra *N57*, p. 6, paragraphs 7.5-7.8.
171 Supra *N18*, p. 31.
172 Supra *N24*, p. 6.
173 Supra *N22*, p. 44, paragraph 92.
174 Supra *N25*, p. 25, paragraph 106.

5.3.3 Commission's Proposed Approach

223 In response to the concerns raised, the Commission is undertaking further research into the number of peer groups required to appropriately categorise the 28 EDBs.

5.4 THRESHOLD LEVELS

5.4.1 Discussion Paper Proposals

224 In its Discussion Paper, the Commission proposed providing incentives for EDBs to provide services that reflect consumer demands. The Commission noted that applying appropriate service quality incentives could stimulate innovation and improvements in service.

5.4.2 Submissions

225 A number of submitters questioned whether consumers were prepared to fund improvements in quality. Aurora[175] and Unison[176] submitted that there was no evidence that consumers wanted, or were prepared to pay for, such improvements.

226 PwC submitted that the objective of the reliability threshold should take into consideration the demands of consumers and their willingness to pay.[177] PwC also noted that existing reliability performance reflects a number of historic factors and that existing performance levels have been endorsed by consumers through the consumer engagement process.[178]

227 In its review of the effectiveness of EDBs' consumer engagement efforts, the Commission noted that consumers' views did not vary widely despite the wide variation in the level of network reliability provided throughout New Zealand. For example, PBA reported:

> *The results of these surveys were very similar across all EDBs with roughly 80% of surveyed consumers expressing satisfaction with the existing price quality trade-off. Of those that were dissatisfied about half indicated a willingness to pay more for a higher level of reliability, while the rest preferred to pay less and receive a lower level of reliability in return. This result was obtained irrespective of the level of reliability delivered to consumers - one of the higher levels of dissatisfaction was reported by Nelson Electricity, which not only has one of the best reliability records in the country but also a level of reliability that compares very well with international best practice benchmarks. On the other hand Top Energy, which reports a relatively poor reliability, reported that it had decided to maintain expenditure on vegetation management at existing levels because its survey findings indicated that consumers were generally happy with the levels of reliability provided.* [179]

---

175 Supra *N23*, p. 16.
176 Supra *N24*, p. 6.
177 Supra *N19*, pp. 36-37, paragraph 107.
178 Ibid, p. 37, paragraph 108.
179 PBA, *Review of Quality Threshold – Consumer Engagement Criterion for Electricity Distribution Businesses*, 10 December 2007, p.15.

228 As a result, PBA concluded that *"[w]e believe the value of such surveys as a consumer consultation tool is limited"*. [180]

229 The Commission considers that an EDB should provide network reliability at the level that consumers demand. However, the Commission's view, at this stage, is that many of the surveys undertaken by EDBs were relatively weak and may not accurately reflect consumer views. It is not evident that appropriate choices, in respect of the price-quality trade-off, were made clear or were available. The link between incorporation of the survey findings into planning processes was not well established. Where an EDB's reliability differs from that of its peers, the Commission is of the preliminary view that EDBs should be able to demonstrate that the appropriate price-quality trade-off is being achieved. The Commission will undertake further research into this issue to see how best to assess the levels of reliability that EDBs should be expected to achieve.

230 Orion considered that EDBs should have the incentive to improve reliability performance to the extent that customers demand it, and that requiring improvements in reliability may result in some groups of customers being charged for levels of reliability that exceed their willingness to pay.[181] The Commission considers that setting a reliability threshold that requires overall improvements is not necessarily inappropriate because this will not remove an EDB's discretion on how that improvement is achieved. EDBs should take into consideration consumer preferences and target improvements in appropriate areas of their networks accordingly.

231 AECT[182] and Unison[183] suggested that the available historic data should be used to establish appropriate performance targets for each EDB. AECT considered that the scheme could be modelled on the Australian Energy Regulator (AER) Service Target Performance Incentive Scheme (STPIS)[184] for regulating Transmission Network Service Providers (TNSP).[185]

232 The Commission notes AER's STPIS scheme for TNSPs. The Commission also notes that AER has recently published details of its proposed scheme for Distribution Network Service Providers (DNSP), and its intention to introduce a national STPIS scheme.[186] AER decided not to introduce an STPIS with financial impact for the

---

180 Ibid, p.15.

181 Supra *N18*, p. 21, paragraphs 64-65.

182 Supra *N22*, p. 29.

183 Supra *N24*, p. 6.

184 AER, *Final Decision: Service Target Performance Incentive Scheme*, March 2008.

185 The AER developed STPIS to ensure that network providers had no incentive to maximise profits at the expense of service quality, by linking regulated revenues to the TNSPs' performances against reliability performance parameters. The scheme provides incentives for improved performance against these parameters by rewarding increased performance and penalising declining standards. Performance targets are set by averaging historic data. AER's stated objective of the STPIS was to "discourage network owners from reducing expenditure on the network such that performance levels fall below those achieved currently, or do not match those expected from operating and capital expenditure programs". The intention of this scheme is to provide incentives for improved performance against these parameters by rewarding increased performance and penalising declining standards.

186 AER, *Proposed Electricity Distribution Network Service Providers Service Target Performance Scheme*, April 2008.

DNSPs in New South Wales and the Australian Capital Territory for the 2009-14 regulatory control period. However, the AER is undertaking data collection and analysis of service performance in these areas and it intends that the approach applied will be based on the national STPIS. The Commission will monitor the development of these schemes and will consider their relevance to the threshold reset in its Initial Decisions Paper.

Performance Bands

233 Aurora agreed in principle with the proposal to set bands for performance within each peer group, but expressed reservations about the ability to set bands robustly.[187] Although AECT did not support peer groups, it considered the use of bands at an individual EDB level was a concept that warranted further consideration.[188]

234 As mentioned above, the Commission is undertaking additional analysis of the threshold mechanisms. The concept of, and the appropriate levels for performance bands will be examined further in this research.

5.4.3 Commission's Proposed Approach

235 The Commission considers that an EDB should be able to provide a similar balance between price and reliability to that of its peers. The Commission will further research the desired levels of reliability that EDBs should be expected to be able to achieve.

5.5 PRICE-QUALITY TRADE-OFFS

5.5.1 Discussion Paper Proposals

236 In its Discussion Paper, the Commission introduced the option of including an S-factor mechanism in the price-path threshold, i.e., CPI – X+S. The proposed S-factor was linked to the proposed peer groups with incentives determined by the EDB's position within the peer group relative to its identified peers.

237 The Commission proposed that the incentives provided through the S-factor should vary depending on whether EDBs were below-average, average or above-average performers within their respective peer groups. It also proposed that below-average performers should receive a positive S-factor to provide for significant improvements in reliability, dependent on the evidence of the need for investments to warrant the adjustment. Similarly, the Commission proposed that a positive S-factor be provided to above-average performers recognising the potentially greater costs of additional improvements for the EDBs in that group. The Commission proposed no S-factor for average performers, as an incentive would exist to improve performance to achieve the positive adjustment to the S-factor proposed for above-average performers.

---

187 Supra *N23*, pp. 24-25.
188 Supra *N22*, pp. 29-30.

5.5.2 Submissions

238 A wide range of views were received on the proposed S-factor. Unison supported the concept of an S-factor but suggested considerable work was required to arrive at an appropriate and sustainable mechanism.[189] ENA noted that one issue was to implement this in a way that reflects consumer preferences, and places appropriate incentives on EDBs.[190] Vector considered that the introduction of an S-factor would enable separate quality thresholds to be omitted.[191]

239 Submitters raised the issue of interactions between the S-factor and other components of the price-path. Aurora considered there to be a conflict with the C_1-factor, as increased spending to improve network reliability (to receive an S-factor) would deteriorate an EDB's C_1-factor standing.[192] The Commission notes that, under the existing arrangements, the incentives for EDBs to improve quality may be reduced as improvements are not recognised under the existing productivity framework whereas the associated increase in cost is captured. The provision of an appropriate S-factor would offset this by providing an incentive for EDBs to invest and improve quality performance by increasing allowances under the price-path.

240 A number of respondents considered that the asymmetric nature of the S-factor, providing a positive S-factor to both above- and below-average performers, would provide average performers with just as much incentive to worsen their performance as they have to improve it.

241 In response, the Commission notes that the idea of providing a positive S-factor to below-average performers was to recognise that potentially significant levels of investment may be required to make the necessary improvements in service quality. The Commission intends there to be conditions on the below-average performers receiving a positive S-factor, including committing EDBs to providing evidence that sufficient and timely investments are being made (or will be made) to warrant the adjustment. The Commission would have to consider, at the subsequent reset, whether or not it should allow EDBs whose performance deteriorated from average to below average, to receive an S-factor. However, at this stage, the Commission cannot predetermine what thresholds will be established in the subsequent threshold reset, and therefore, considers it most appropriate to set in place thresholds appropriate for the existing circumstances. The Commission will, however, reconsider this point and also whether the proposed S-factors remain appropriate.

242 Powerco submitted that above-average performers should be rewarded for their performance without having to demonstrate further improvements as they have already undertaken service quality improvements.[193] The Commission considers that even the best performing EDBs should have an incentive to continue to seek improvements for the long-term benefit of consumers.

---

189 Supra *N24*, p. 5.
190 Supra *N22*, p. 44, paragraph 90.
191 Supra *N25*, p. 23, paragraph 93.
192 Supra *N23*, p. 27.
193 Supra *N26*, p. 46.

243 Powerco[194] and Vector[195] suggested including a tolerance or dead-band around the quality threshold. They suggested that performance within the dead-band would be viewed as consistent with achievement of the target. Vector proposed that systematic performance better than the bottom of the dead-band be rewarded with a positive S-factor and that systematic performance worse than the bottom of the dead-band be penalised.[196] Vector further considered than an S-factor that spans multiple regulatory periods was needed to ensure quality performance has improved relative to past performance.[197]

244 Further research will consider how best to manage both performance within peer groups and the mechanisms that could be used to ensure appropriate quality performance. However, at this stage, the Commission considers that it would be inappropriate to incorporate dead-bands as this would, in effect, lift the threshold to the upper limit of the dead-band.

5.5.3 Commission's Proposed Approach

245 The Commission considers that all EDBs should have an incentive to continue to seek improvements for the long-term benefit of consumers and that the S-factor approach would be one means by which to provide such incentives.

246 The Commission will be conducting additional research on the quality threshold mechanism and the incentives provided. In doing so the Commission will consider whether the proposed S-factors remain appropriate.

5.6 REFINEMENTS TO DATA

5.6.1 Discussion Paper Proposals

247 The Commission's Discussion Paper set out three areas where refinements to the existing quality threshold may be appropriate: normalising for the effect of extreme events, addressing data variability, and separately considering disaggregated networks. These are discussed below.

5.6.2 Submissions

Normalising for Extreme Events

248 Extreme events can have a significant impact upon annual reliability performance. To gain a better understanding of underlying reliability performance, the Commission proposed that reliability data provided by EDBs be normalised (removing the impact of

---

194 Supra *N26*, p. 48.
195 Supra *N25*, p. 30, paragraph 132c.
196 Ibid, p. 30, paragraph 132d.
197 Ibid, p. 24, paragraph 100.

extreme events) and that the Beta Method set out in the *Supplementary Guidelines*[198] be used to identify extreme events.

249 The majority of submitters supported the concept of normalising data for extreme events. Despite this, four submitters expressed concern with the suitability of the Beta Method as a means of determining extreme events. Aurora expressed concern with the level of Beta proposed for the extreme weather criteria.[199] Powerco considered the Beta approach would not capture some events beyond the control of EDBs and expressed a preference for the unmodified IEEE 1366.[200] PwC considered that the Beta Method would only recognise events as extreme that are rare and severe, and therefore EDBs which experience a number of severe events within a short timeframe would be penalised under this specification.[201] Vector supported an alternative approach taken by the Office of Gas and Electricity Markets ("Ofgem") in Great Britain.[202]

250 The Commission notes that the issues raised above have previously received extensive consideration. Interested parties were provided with the opportunity to submit on the Commission's proposed method for identifying extreme events – and no new matters have arisen. The Commission's decisions on those matters above were published in its *Supplementary Guidelines*[203] in October 2007, when the Commission made clear why it considered that the Beta Method was the appropriate means of identifying extreme events.

251 The Commission used the Beta Method to identify extreme events in assessing breaches of the thresholds occurring in the years ended 31 March 2003-06, and published its Decision Not to Declare Control in respect of those companies that had breached the quality threshold during this period.[204] The Commission is now assessing breaches of the thresholds occurring in the years ended 31 March 2007-08. At this stage, the Commission considers that the Beta Method is the appropriate methodology for identifying extreme events, but the Commission proposes to undertake further research, and will, in light of the findings of that research, reconsider whether performance should be assessed on a normalised basis.

Normal Data Variability

252 In relation to data variability, the Commission noted that threshold breaches may occur because of the normal variability of data within any given year. To minimise the

198 Commerce Commission, *Supplementary Guidelines for Investigating Breaches of the Reliability Criterion*, 2 November 2007.
199 Supra *N23*, p. 23.
200 Supra *N26*, p. 44.
201 Supra *N19*, p. 37, paragraph 110.
202 Supra *N25*, p. 27, paragraph 114.
203 Supra *N*187.
204 Commerce Commission, *Reasons for not declaring control of Electricity Distribution Businesses: Alpine Energy Limited, Aurora Energy Limited, Electricity Invercargill Limited, Main Power Limited, Nelson Electricity Limited, Network Tasman Limited, Network Waitaki Limited, Northpower Limited, Orion New Zealand Limited, Powerco Limited, Scanpower Limited, Top Energy Limited, The Lines Company Limited, Waipa Networks Limited and WEL Networks Limited*, 6 June 2008.

frequency of such breaches, the Commission proposed assessing compliance using a three-year moving average (rolling average).

253 Submitters broadly supported the proposal of using a rolling average of a number of years to address the impact of the normal variability of data and that such breaches may not necessarily be indicative of deteriorating reliability performance. However, a number questioned the appropriateness of a three-year period. Vector noted that three years was a very small sample size and considered that a potentially superior means to control for variability was to adopt a band around a central target and compare each year's quality outcome against that band.[205] AECT expressed concern with using a three-year moving average as it considered it was appropriate to have a sufficiently large sample size to obtain statistically reliable estimates of the performance targets.[206] Aurora considered that a three-year rolling average was a reasonable period but that this should be reviewed after further experience using the proposed quality threshold.[207]

254 The Commission notes that setting the appropriate period for the rolling average involves a balance: if the period is too short then significant events in the period may still influence the results. On the other hand, if the period is too long, the threshold may cease to act effectively as a performance threshold, other than over a term that may be longer than the regulatory period. Given concerns over the variability of data on an annual basis and the fact that the existing regulatory period is five years, the Commission considers that setting a three-year rolling period is a reasonable starting point, but notes Aurora's suggestion that this is reviewed after a period of time.

Disaggregated Networks

255 The Commission proposed that separate quality thresholds be applied to non-contiguous networks and/or to networks that have ownership/beneficiary differences. The majority of submitters supported the proposal to apply separate thresholds for non-contiguous networks. AECT supported reporting separately on different networks with a view to developing network specific thresholds based on historic information.[208] Unison supported the separate treatment of non-contiguous networks where they have fundamentally different characteristics.[209] Vector considered that reporting separately on different networks was reasonable.[210]

256 Unison supported the rationale behind separate thresholds but noted that it should be driven by differences in physical characteristics rather than geographic distance between networks.[211] Orion supported separate thresholds for non-contiguous networks but not for networks that are electrically non-contiguous but geographically adjacent.[212]

---

205 Supra *N25*, p. 28, paragraph 118.
206 Supra *N22*, p. 28.
207 Supra *N23*, p. 23.
208 Supra *N22*, p. 28.
209 Supra *N24*, p. 6.
210 Supra *N25*, pp. 28-29, paragraph 121.
211 Supra *N45*, p. 26.
212 Supra *N18*, p. 30.

257 Two submitters, however, did not support the application of separate thresholds for non-contiguous networks. Eastland did not support the proposals as it considered that they could have a contorting effect on network operations.[213]

258 Two submitters commented on the merits of separate thresholds for reflecting ownership/beneficiary differences. Aurora noted that such differences could result in perverse incentives regarding the price-quality trade-off and therefore considered that in such circumstances separate disclosure was warranted.[214] Unison noted that before introducing separate thresholds to reflect ownership/beneficiary differences, the Commission should provide hard evidence of differential treatment of networks where ownership interests differ.[215]

259 The Commission considers that arguments exist both for allowing and not allowing disaggregated networks. Value may come from more accurate reporting on the performance of different parts of a network that are substantially different from each other or are subject to different environmental affects. For example, Aurora's Dunedin and Central Otago networks differ in that the Dunedin network is considerably more urban than its Central Otago counterpart. Additionally, both areas face different climatic conditions and have different network characteristics. The Commission notes that separate reporting would highlight these differences. The alternative argument is that the aggregate threshold may provide sufficient regulatory oversight and that the EDB is appropriately left to manage the respective performance of separate areas of its network. The Commission will consider this issue further before setting out its initial views in September 2008.

Disaggregated performance measures

260 In its Discussion Paper, the Commission proposed additional reporting at a disaggregated level. Interested parties that submitted on this matter were not in favour of this approach. Powerco did not consider that such reporting would be an appropriate objective for the Commission under a light-handed regulatory regime and considered that it would be difficult to see how the compliance costs would be outweighed by benefits.[216] AECT agreed that requiring the provision of disaggregated information would rapidly be unmanageable and impose significant costs.[217]

261 The Commission considers the additional cost and complexity involved in developing disaggregated reporting would depend on the nature of the arrangements. The Commission also notes a number of EDBs already report disaggregated service information internally, and to consumers. The Commission considers that it would not be a significant step to formalise these reporting requirements and is of the view that EDBs should monitor service levels in different parts of their networks (as discussed above). These additional measures will be reviewed in the Commission's Information Disclosure Requirements work-stream.

---

213 Supra *N27*, p. 8, paragraph 3.17.
214 Supra *N23*, p. 23.
215 Supra *N24*, p. 6.
216 Supra *N26*, p. 50.
217 Supra *N22*, p. 32.

262 Aurora did not support disaggregated performance measures as it considered that this would not necessarily make any difference in service levels for those customers who experienced the lowest quality service.[218] While the Commission notes that poorly-served customers may not see an immediate improvement in quality, better reporting of this information would at least highlight the poor service levels received by those customers. The Commission also notes that the purpose is not limited to informing those customers receiving low reliability. Information is also of interest and value to customers receiving good levels of reliability, as well as other industry participants.

5.6.3 Commission's Proposed Approach

263 The Commission considers extreme events should be normalised using the Beta Method, outlined in the *Supplementary Guidelines*, and that this is the most appropriate method to use. The Commission intends to adopt this approach when undertaking further research on underlying reliability performance.

264 The Commission considers that setting a three-year moving average is a reasonable starting point for normalising for data variability during the 2009-2014 threshold period, but may consider this further at a later date.

265 The Commission intends to consider further the appropriateness of disaggregating networks for the purpose of setting and reporting against thresholds.

5.7 FURTHER QUALITY INCENTIVES

5.7.1 Discussion Paper Proposals

266 In addition to mechanisms relating to reliability of supply, a number of overseas regulatory regimes include additional service quality criteria as a component of quality regulation. The Commission, in its Discussion Paper, identified a number of service quality criteria applied by overseas jurisdictions. These included:

- average time to respond to customer problems;
- guaranteed service level schemes;
- average time to provide connections; and
- annual number of service complaints received and resolved.

267 The Commission proposed that EDBs should implement measures to monitor performance of service quality criteria and that the Commission should introduce obligations under the Information Disclosure Requirements to report against such measures.

---

218 Supra *N23*, p. 28.

5.7.2 Submissions

268 AECT,[219] Aurora,[220] and Powerco[221] submitted that retailers have the primary contact with customers and many service quality issues are beyond the control of EDBs. Aurora also noted that the Electricity and Gas Complaints Commission ("EGCC") already monitors trends in consumer complaints, but considered that monitoring by the Commerce Commission would be appropriate where EDBs have declined to join the EGCC scheme.[222] Orion considered differences in the approaches taken by EDBs to the measures outlined by the Commission would make it difficult to implement meaningful measures.[223] Orion considered a customised approach would be preferable.

269 Powerco considered that it would be premature, given that there is limited data on which to base a threshold definition, to include service quality criteria in the threshold regime.[224] Powerco also noted that the SAIDI and SAIFI thresholds provided sufficient reliability safeguards in the regime and that the Commission had provided no evidence why these service quality measures were inadequate or should be augmented.[225] As an alternative, Powerco suggested that the proposed S-factor incentives scheme could be extended to apply to instruments that would improve customer service.

270 AECT,[226] Aurora,[227] ENA,[228] Powerco,[229] and PwC[230] considered that if additional service quality measures were introduced then they should form part of the Information Disclosure Requirements rather than the thresholds. Orion, however, did not support the introduction of additional reporting requirements in the Information Disclosure Requirements.[231] Orion considered that the EDBs' AMPs are the appropriate mechanism for the disclosure of service quality information.

271 In response, the Commission considers that further service quality incentives would encourage EDBs to improve performance in a number of areas. While the Commission acknowledges that retailers are generally the primary point of contact for customers, where this is not the case, EDBs should focus on providing appropriate service quality standards for the long-term benefit of consumers. The Commission notes that the May 2008 GPS[232] requires energy businesses, including all EDBs, to set up an independent system to resolve complaints from consumers, and that this complaints scheme will be monitored by the Electricity Commission and the Gas Industry Company.

---

219 Supra *N22*, p. 31.
220 Supra *N23*, p. 28.
221 Supra *N26*, pp. 48-49.
222 Supra *N23*, p. 27.
223 Supra *N18*, p. 33.
224 Supra *N26*, p. 49.
225 Supra *N26*, p. 46.
226 Supra *N22*, p. 31.
227 Supra *N23*, p. 28.
228 Supra *N22*, p. 61.
229 Supra *N26*, p. 49.
230 Supra *N19*, p. 52.
231 Supra *N18*, p. 34.
232 May 2008 Government Policy Statement on Electricity Governance, pp. 7-8, paragraphs 26-32.

272 The Commission will further consider submissions and the results of its research, before setting out its initial decision on this matter in September 2008.

Guaranteed Service Level Schemes

273 PwC supported further consideration of penalty/reward schemes for service levels, either as a refinement or in place of the reliability threshold.[233] Vector considered such schemes could be a more effective means of establishing minimum performance guarantees and noted it already includes guaranteed services levels in its network service agreements.[234]

274 AECT did not believe guaranteed service level schemes would lead to an approved level of service as, in many instances, it would be uneconomic to improve the level of service.[235] Aurora noted that it already provided service level payments but considered that such arrangements would only lead to higher service levels where the payments for overtime were larger than the investment needed to avoid them.[236]

275 The Commission notes that the level at which the compensation payments are set may affect the EDBs' decisions to invest in improving service quality. As some EDBs face increasing investment requirements, as highlighted by FSC (2007),[237] the Commission is considering the appropriateness of compensation payments that may reduce the funds available for investment. The Commission also notes that, while some EDBs already make compensation payments, the terms on which these payments are made are not always clear and the schemes themselves are not well publicised. Although the Commission recognises the importance of service quality incentives, it considers no additional incentives are required in this threshold. The Commission proposes that additional requirements to report service quality measures be considered further as part of the Information Disclosure Requirements work-stream, along with requirements to report network performance at a disaggregated level.

5.7.3 Commission's Proposed Approach

276 The Commission will further consider the merits of introducing service quality incentives in the thresholds or introducing more detailed service quality reporting requirements in the Information Disclosure Requirements, before setting out its initial views in September 2008.

277 The Commission does not consider that a guaranteed service level scheme should be introduced in this threshold period.

---

233 Supra *N19*, p. 52.
234 Supra *N25*, p. 29, paragraph 124.
235 Supra *N22*, p. 32.
236 Supra *N23*, p. 28.
237 Supra *N101*, p. 6, Table 1.

CHAPTER 6: REFINEMENTS

278 This chapter summarises the Commission's initial views (as expressed in the Discussion Paper) and responds to submissions. It sets out the Commission's preliminary views on a number of refinements to the initially proposed threshold arrangements. These refinements are generally independent of the detailed design of thresholds. They deal instead with inputs, possible exclusions and associated processes. Additionally, given the Commission's aim of promoting the efficient operation of distribution services, section 6.4 considers the potential role of thresholds in relation to energy efficiency.

6.1 INTRODUCTION

279 In its Discussion Paper, the Commission identified seven areas where refinements to the proposed thresholds might be appropriate. These stemmed from a number of factors including: developments in international practice, industry comments and feedback, and the Commission's experience of operating the existing threshold arrangements. The Commission's preliminary views are provided below, followed by discussion on each of the topics.

6.1.1 Summary of Preliminary Views

280 In summary, the Commission's preliminary views are that it should:

- require EDBs to provide a detailed breakdown of system losses by time and by area under Information Disclosure Requirements;
- consult on the form of customised thresholds in early 2009, with a view to developing arrangements for implementation in early 2010;
- initiate a review of the Assessment and Inquiry Guidelines ("Guidelines") with a consultation in early 2009, that will consider how best to improve the predictability of breaches by reducing the scope for 'technical breaches'. The review also provides an opportunity to further assess proposals for granting exemptions from compliance assessments. The Commission would aim to complete the review by the end of 2009; and
- retain the existing definitions of excluded services.

281 These preliminary views are discussed further in the following sections: pass-through costs (section 6.2), customised thresholds (section 6.3), energy efficiency (section 6.4), Assessment and Inquiry Guidelines (section 6.5), predictability of breaches (section 6.6), assessment exemptions (section 6.7), and excluded services (section 6.8).

6.1.2 Further Research

282 In addition to those discussed in previous chapters, there are a number of refinements that the Commission intends to research further before setting out its views in the Initial Decisions Paper. These are:

- to consider issues associated with the treatment of transmission pass-through costs;

- to investigate whether EDBs should be incentivised to reduce transmission peaks; and

- to consider the reporting of system losses by the EDBs.

6.2 PASS-THROUGH COSTS

283 Under the existing threshold arrangements, provision is made for the pass-through of certain operating costs. Costs are treated as pass-through on the grounds that they are beyond the control of EDBs (i.e., that they are exogenously determined). The existing categories of pass-through costs are transmission charges, avoided transmission charges, local authority rates and Electricity Commission Levies.

6.2.1 Discussion Paper Proposals

284 In its Discussion Paper, the Commission set out its preliminary view that local authority rates and Electricity Commission levies remain beyond the control of EDBs, and should therefore continue to be treated as pass-through.

285 The Commission noted that there were wider considerations associated with the pass-through of transmission charges and avoided transmission charges. The Commission also highlighted an anomaly in the price-path formula related to the treatment of pass-through costs for transmission charges that meant that if an EDB's volumes were increasing, the price cap would allow greater price increases than intended and vice versa. The Commission's Discussion Paper noted this had previously been consulted on, and a solution had been identified that involved the unbundling of transmission revenues and Transpower charges from the price-path formula. The Commission noted that one option was to bring forward these changes as part of the threshold reset.

6.2.2 Submissions

286 A number of submitters supported the pass-through of charges and rebates for transmission services. However, some raised concerns with the existing approach.

287 Marlborough[238] and PwC[239] considered that it is impracticable for EDBs to estimate precisely the annual costs of transmission charges and thus, to avoid EDBs bearing the associated revenue risk, any under or over recovery needs to be taken into account when assessing the value of transmission charges recovered. The Commission is of the view that the adoption of an under/over recovery mechanism would entail additional complexity, but will consider this matter further.

288 Three submissions noted that the treatment of transmission charges as pass-through provides no incentives to reduce peak load. Mighty River Power noted that by eliminating incentives to reduce peak load this approach removed the likelihood of the deferral of future transmission investment.[240] Powerco considered that the proposed

---

238 Supra *N20*, p. 2.
239 Supra *N19*, p. 40, paragraph 119.
240 Might River Power, *Threshold Reset 2009 Discussion Paper – Response*, p 4, paragraph 16b.

treatment provided no incentive to manage transmission charges.[241] ENA suggested solutions to this issue involving either: (i) creating a separate threshold for transmission services, with the addition of a mechanism allowing EDBs to vary the relationship between the costs they face and the revenues they obtain for transmission services; or (ii) removing transmission services from the thresholds entirely and subjecting the on-sale of transmission to competitive pressures.[242] Eastland recommended retention of the present methodology as the least complex approach but supported the development of a straightforward cost-minimising approach.[243]

289 The Commission agrees that the existing treatment of transmission charges as pass-through costs provides no incentives for EDBs to reduce load. The Commission further notes that transmission costs can be managed by EDBs through investment in their systems. Changes in this area may have beneficial effects in relation to load management. In particular, the Commission notes that there are potential approaches, such as those suggested by ENA, which could provide stronger incentives for EDBs to manage transmission peaks. This issue is discussed in further detail in the section on energy efficiency (section 6.4).

290 Orion noted that new investment by EDBs may be a substitute for transmission investment and therefore questioned why transmission charges were subject to pass-through when such costs were not.[244] The Commission notes that costs should only be passed through on the grounds that they are beyond the control of EDBs. New investment by EDBs in their networks is within their direct control and therefore should not be subject to pass-through. However, as noted above, the Commission recognises that there is also a degree to which transmission charges can be managed by EDBs and therefore further consideration should be given to whether it is appropriate that all or some transmission charges should be treated as pass-through.

Pass-through volumes

291 Orion expressed a number of concerns[245] with the Commission's proposed approach for addressing the growth in pass-through volumes. Orion's key concerns were the timing of implementation, the method by which distributors might be able to keep the benefit of any previously allowable price increases, the proposal to update base weighted quantities, and the proposed method by which distributors should recover/pass back any shortfall/surplus between transmission revenue and Transpower charges.

292 The Commission notes that the concerns set out by Orion were raised in the context of the previous consultation on proposed changes[246] to the Notice. However, the Commission also notes that the majority of submissions to that consultation supported the unbundling of transmission revenue and Transpower charges from the price-path

241 Supra *N26*, p. 51.
242 Supra *N22*, p. 49, paragraphs 117-118.
243 Supra *N27*, pp. 10-11, paragraph 3.23.
244 Supra *N18*, p. 34.
245 Ibid, p. 35.
246 Commerce Commission, *Proposed Changes to the Distribution Thresholds Gazette Notice*, 28 October 2005.

formula as the most appropriate means of decoupling the impact of changes in EDBs' volumes on the level of the price-path and thus to resolve the price-path formula anomaly. At that time, the Commission agreed with submitters that there were a number of implementation issues and insufficient time to address those for implementation by 1 April 2006.[247] The Commission considers that addressing this issue as part of resetting the thresholds is appropriate, and notes the interaction of this issue, and of any potential solution, with the wider issue of the treatment of transmission charges as pass-through costs. The Commission's initial view is that any solution should provide appropriate incentives for EDBs to manage transmission costs.

6.2.3 Commission's Proposed Approach

293 The Commission's view is that local authority rates and Electricity Commission levies are beyond the control of EDBs and should remain as pass-through costs.

294 The Commission notes that there are potential efficiency issues with the treatment of transmission costs and avoided transmission costs as pass-through and intends to consider these issues further.

295 The Commission considers that a solution to the pass-through volumes anomaly should be considered for introduction as part of the reset package. The Commission recognises that there are a number of issues with implementing an approach based on the unbundling of transmission revenues and Transpower charges from the price-path formula and therefore the Commission intends to consider this approach and other alternatives in more detail.

6.3 CUSTOMISED THRESHOLDS

296 The existing threshold arrangements are developed to apply across all EDBs. The number of and differences between EDBs necessitates that the thresholds are somewhat generic. To complement the generic approach, customised thresholds could be introduced to account for the specific characteristics and circumstances of individual EDBs.

6.3.1 Discussion Paper Proposals

297 The Commission considered whether EDBs should have the option of requesting customised threshold terms, and sought views on the relevant criteria on which to assess EDB requests for customised terms.

6.3.2 Submissions

298 All submitters supported the proposal of customised thresholds in principle.

---

247 The Commission noted that the issues associated with the price-path anomaly may result in the price-path formula not giving full effect to the intent of the price-path threshold. The Commission therefore considered that the associated issues should be addressed at the earliest possible stage. Where amendments are made to a *Gazette* Notice the Commission seeks to make these from the beginning of the following year of the regulatory period, in this case 1 April 2006.

299 Powerco considered that customised thresholds could provide a good option for addressing the needs of EDBs whose circumstances meant standard thresholds were inappropriate.[248] Eastland supported customised thresholds on the basis that the electricity sector is diverse so that individual solutions would better accommodate the specific circumstances of individual EDBs.[249] AECT agreed that the regulatory regime should accommodate the particular needs of an individual lines business but qualified its support by noting that EDBs should not receive customised regulatory outcomes that, aside from the particular circumstances being addressed, are more or less generous than the default thresholds determined by the reset process.[250] The Commission notes the high level of support for the development of customised thresholds.

300 ENA supported customised thresholds based on a propose/respond model.[251] It anticipated that if a proposal was not accepted by the Commission then, the EDB would continue to operate within its existing thresholds.[252] PwC also supported customised thresholds but suggested that propose/respond models are likely to be more difficult for smaller EDBs with limited resources than for larger ones.[253] The Commission notes the wide difference in views on the preferred method of developing customised thresholds.

301 Unison noted that a clear framework under which the Commission would assess an EDB's proposed customised threshold is essential; without this EDBs will lack confidence about the risks of engaging in a customised threshold process.[254] Orion considered that the Commission must resolve a number of issues before customised thresholds could be introduced, including establishing an opening RAB and developing regulatory principles and guidelines.[255] The Commission agrees that a clear framework is required.

6.3.3 Commission's Proposed Approach

302 The Commission proposes to consult on the form of customised thresholds and the framework for determining customised thresholds in early 2009, with a view to implementing these in 2010. The Commission also proposes to consult on the process, and basis, on which it will prioritise any EDB requests for customised thresholds.

---

248 Supra *N26*, p. 53.
249 Supra *N27*, p. 11.
250 Supra *N22*, p. 34.
251 A propose/respond model is a way of determining regulatory arrangements that involves firms 'proposing' their own regulatory control terms to the regulator. The proposed terms usually have to meet broad guidelines or requirements set in advance. The regulator will then review those terms and 'respond' to the firm confirming whether those terms are approved, and thus will apply, or be rejected. In the case where proposed terms are rejected, default control terms will usually apply.
252 Supra *N22*, p. 50.
253 Supra *N19*, p. 49.
254 Supra *N24*, p. 7.
255 Supra *N18*, p. 36.

6.4 ENERGY EFFICIENCY

303 Energy efficiency relates to maintaining or increasing the level of output delivered, while reducing energy consumption. The concept of energy efficiency encompasses efficiency measures on both the supply and demand-side. Supply side measures focus on the production, conversion and delivery of energy. Demand side measures generally promote the efficient end-use of energy.

6.4.1 Discussion Paper Proposals

304 The Commission noted the limitations of its scope to promote energy efficiency, as well as noting the Electricity Commission's responsibility for developing EDB pricing methodologies and thus its control of the key demand-side mechanisms that can influence energy efficiency.

305 However, the Commission considered three areas in which energy efficiency and load management could be promoted within the threshold arrangements; namely, incentivising electricity loss reduction, addressing disincentives to the development of distributed generation and recognising demand-side investments in the RAB of EDBs. The following section summarises submissions and sets out the Commission's preliminary views.

6.4.2 Submissions

306 Submitters expressed mixed views on whether provisions should be made within the threshold arrangements to incentivise energy efficiency.

307 ENA[256] and Vector[257] supported directly incorporating an energy efficiency, or 'E-factor', into the price-path with the purpose of compensating an EDB for taking efficiency enhancing measures that promote energy efficiency or load on its network. The Commission notes that creating a provision in the price-path that compensates EDBs where they are enhancing energy efficiency would be one method of incentivising energy-efficient investment. The main problem with this approach would be identifying an appropriate list of criteria against which an EDB's investment in energy efficiency could be measured. As a result of this, the Commission considers that a preferable approach, that would reward EDBs for engaging in energy efficiency initiatives, would be to reconfigure the treatment of transmission services under the thresholds to provide EDBs with incentives to reduce peaks. This approach would be less complex, more focused, and would be consistent with comments made in submissions on the treatment of pass-through costs.

308 Orion submitted that expenditure on energy efficiency improvements should be treated as a pass-through cost.[258] The Commission does not consider it would be appropriate to treat all energy efficiency expenditures as pass-through costs. Expenditure on energy efficiency should only proceed if the benefits are greater than the costs involved. If

---

256 Supra *N22*, p. 52.
257 Supra *N25*, p. 34, paragraph 148.
258 Supra *N18*, p. 36.

EDBs can simply pass through all such expenditure, then there is no incentive to deliver efficiency benefits at efficient cost.

309 Where an EDB's shareholders are consumer-owned trusts, the EDB may be interested in minimising the pass-through of costs, and may therefore be incentivised to invest in energy efficiency measures. In some cases, the costs of such measures are low, but EDBs generally have no incentive to invest in such devices because they see no obvious benefit to themselves, or their consumers. The Commission considers that this issue merits further consideration in the research it proposes to undertake, but notes that it is unlikely that this issue can be resolved in this threshold reset.

310 AECT[259] and Aurora[260] questioned whether energy efficiency was appropriate within the context of threshold regulation. The Commission notes that under the threshold regime EDBs are incentivised to operate efficiently with a view to keeping an appropriate portion of any efficiency gains. With respect to energy efficiency, the Commission recognises that there are currently few incentives in the thresholds for EDBs to invest in such a way that benefits society as a whole (in the absence of direct benefits to the EDB).

Incentivising loss reduction

311 Six submitters commented on the scope for incentivising loss reduction in the thresholds. Aurora and Mighty River Power supported the incorporation of some form of incentive mechanism. Aurora considered that an easy basis to incentivise loss optimisation would be to add the cost of technical losses to the direct costs of the EDB when determining comparative efficiency.[261] It noted that, based on average wholesale energy prices in that area, a direct cost to consumers of losses can be readily estimated and will result in EDBs with high technical losses being found to be relatively inefficient. Mighty River Power suggested as a potential approach, that benchmark system loss levels be set for different classes of EDBs (e.g., rural and urban), with a requirement for an EDB with a higher comparative level to reduce its losses annually, or otherwise could be treated as having breached its threshold.[262] Mighty River Power also proposed amending the Information Disclosure Requirements to require a break-down of system losses by time and by area.

312 Four submitters did not support a specific provision to incentivise loss reduction. Eastland suggested that the most economic way of reducing losses was to substitute old equipment over time with up-to-date replacements.[263] Powerco considered that the measurement and auditing of losses would be a complex task and would likely involve substantial costs and significant resources to implement a line loss provision.[264] Vector considered that making EDBs accountable for losses would be inappropriate when they have few 'levers' by which to influence the total level of losses and could suffer

259 Supra *N22*, p. 34.
260 Supra *N23*, p. 30.
261 Ibid, p. 30.
262 Supra *N240*, p. 6, paragraph27-28.
263 Supra *N27*, p. 12, paragraph 3.29.
264 Supra *N26*, p. 53.

financially from third-party behaviour.[265] PwC noted the potential complexity of any loss reduction proposal and considered that until more meaningful data on the level of technical losses was available, further consideration of the issue should be delayed, possibly until 2014.[266]

313 The Commission notes that a relevant consideration is the quality of information available upon which to base any loss reduction mechanism. One potential solution is the proposal by Mighty River Power[267] to amend the Information Disclosure Requirements to mandate the reporting of additional information on losses. The Commission considers that this could be introduced from 2009 with a view to putting in place a more detailed mechanism for incentivising loss reduction in resetting thresholds from 2014. Additional reporting requirements would enable the performance of individual EDBs in relation to losses to be compared, and this could in itself provide an incentive to improve performance and minimise losses.

314 The Commission agrees that the introduction of a mechanism to incentivise loss reduction is likely to involve additional complexity and some additional cost in the short term and will consider this matter further.

Distributed generation

315 Submitters that commented on the treatment of distributed generation supported the provision of incentives to invest in distributed generation but did not consider these incentives should be included in the thresholds.

316 Powerco considered that the threshold regime had no appreciable impact on investment in distributed generation.[268] Similarly, Eastland considered that distributed generation issues should be exempt from the threshold arrangements but that EDBs should be able to bring forward relevant information on the matter when applying for a customised threshold.[269] The Commission considers that the thresholds should not disincentivise EDBs from investing in, or connecting, distributed generation. Where EDBs have significant investment requirements that cannot be met under the existing price-path, the development of arrangements for the setting of customised thresholds will provide a basis for EDBs to seek thresholds tailored to their own specific investment needs. However, the Commission does not consider that customised thresholds would be required solely for investing in, or connecting, distributed generation. Generally, it would be expected that whether investment is undertaken to connect distributed generation in specific cases would depend on whether the benefits of that investment exceeded the costs and thus whether a business case could be made for the investment.

317 PwC submitted that the key issue to ensure distributed generation is not disincentivised would be to include any avoided transmission charges as pass-through costs.[270] The

---

265 Supra *N25*, p. 38, paragraph 168.
266 Supra *N19*, p. 56.
267 Supra *N240*, p. 6, paragraph 28.
268 Supra *N26*, p. 54.
269 Supra *N27*, p. 12, paragraph 3.30.
270 Supra *N19*, p. 56.

Commission considers treating avoided transmission charges as pass-through may not incentivise EDBs to minimise peaks and improve energy efficiency.

318 AECT considered that EDBs should be encouraged to invest in distributed generation when it provides a cost-effective alternative to investment in distribution or transmission.[271] AECT noted that distributed generation may impact on reliability and that the quality threshold should be amended to reflect that. The Commission notes that it would be difficult to measure the impact of distributed generation on reliability and even more difficult to adjust the quality threshold to reflect that impact.

Demand-side management

319 Aurora submitted that expenditure associated with efficient demand-side management programmes should be allowed as a pass-through cost.[272] The Commission considers that treating demand-side management expenditure as pass-through costs is not the best means of incentivising load management.

320 Eastland considered that the existing threshold arrangements provide no incentives for EDBs to promote more energy conserving consumption patterns or to invest in distribution systems for load management.[273] The Commission agrees that the existing thresholds provide no specific incentives for promoting efficient energy consumption/load management. The Commission considers that there may be changes, to the existing treatment of transmission costs as a pass-through element that can be brought forward as part of this threshold reset and which could provide incentives for promoting efficient energy consumption/load management. Incentives to reduce transmission peaks may also be provided. These were noted in section 6.2 and are discussed in further detail below.

321 Powerco[274] and PwC[275] submitted that an EDB could choose to innovate and invest in demand-side initiatives but that the choice should be a matter for the business. Powerco added that the provision of demand-side measures is not a monopoly activity and therefore does not require regulation. The Commission is of the view that consideration of investment in demand-side measures is important, and as noted above, the Commission considers that the regulatory arrangements could provide incentives that would encourage EDBs to innovate and invest in demand-side initiatives and that to do so would promote the *Efficiency Principle*.

322 ENA and Vector submitted that EDBs are well placed in terms of experience and expertise to identify and promote wider demand-side opportunities. Vector noted that EDBs provide electricity capacity services that overlap with the provision of optimal energy solutions.[276] ENA submitted that EDBs should be able to pursue energy enhancing initiatives for commercial gain and linked these to the treatment of

---

271 Supra *N22*, p. 34.
272 Supra *N23*, p. 31.
273 Supra *N27*, p. 12, paragraph 3.31.
274 Supra *N26*, p. 54.
275 Supra *N19*, p. 57.
276 Supra *N25*, p. 37, paragraph 161.

transmission pass-through costs and the current lack of incentives to manage peaks.[277] While ENA considers that there are limitations on the scope of EDBs to pursue energy efficiency objectives, the Commission notes that EDBs are already able to promote demand-side measures. Therefore, the Commission considers it appropriate to consider what incentives might encourage EDBs to invest in demand-side measures. One approach proposed by ENA would involve EDBs being able to keep some of the benefits associated with lowering transmission peaks. ENA considers that this would incentivise EDBs to invest in measures, such as ripple-control plant or promoting the connection of distributed generation, which will reduce transmission costs and have a positive impact on load management.

6.4.3 Commission's Proposed Approach

323 The Commission notes the views of a number of submitters that retailers have greater scope to promote energy efficiency objectives than network businesses. It is also of note that a number of overseas jurisdictions that have introduced energy efficiency obligations have determined that retailers are best placed to promote energy efficiency objectives. However, the Commission is of the view that EDBs can promote energy efficiency objectives by measures such as reducing transmission peaks and investing in load control plant and that providing incentives to do so would be consistent with the *Efficiency Principle*.

324 The Commission considers that there may be scope to develop specific measures within the threshold arrangements to incentivise energy efficiency. One approach that warrants further consideration would be changing the treatment of transmission pass-through costs to provide EDBs with a financial incentive to reduce transmission peaks. The Commission has noted its intention to consider the arrangements for the treatment of transmission pass-through costs in its Initial Decision Paper. In doing so, the Commission will also further consider the merits of associated proposals for incentivising the reduction of transmission peaks.

325 The Commission proposes to review the Information Disclosure Requirements on EDBs with a view to requiring a detailed breakdown of system losses by time and by area. This proposal will be taken forward within the Information Disclosure Requirements work-stream.

326 The Commission does not consider that customised thresholds will generally be required to meet the investment needs associated with connecting distributed generation alone. However, the Commission proposes to further consider whether any specific incentives are required to incentivise distributed generation.

6.5 ASSESSMENT AND INQUIRY GUIDELINES

327 In October 2004, the Commission published Guidelines setting out its intended process for identifying and assessing breaches, and undertaking post-breach inquiries under the

[277] Supra *N22*, p. 51.

targeted control regime.[278] Respondents to the recent MED review highlighted what they perceived to be a lack of certainty in the post-breach inquiry process as outlined in those Guidelines.

6.5.1 Discussion Paper Proposal

328 In the Discussion Paper, the Commission set out its intention to consult on updated Guidelines and sought views on how they might be improved.

6.5.2 Submissions

329 The majority of submitters supported the proposal to revise and update the Guidelines. Submitters suggested elements that should be incorporated into the Guidelines, including quality breach assessment steps, price rebalancing, expected timeframes for assessments, types of information that would be sought, and the scope of post-breach inquiries. The Commission considers that submissions have identified a number of relevant issues to consider in updating the Guidelines. In respect of quality threshold breaches, the Commission's view is set out in its *Supplementary Guidelines*.[279]

330 Orion noted that in the event that the Commerce Amendment Bill is passed, the Guidelines may become obsolete and therefore the Commission should focus its efforts on developing input methodologies.[280] PwC also noted that the input methodologies should be the main priority.[281] The Commission does not agree that it should focus on developing regulatory principles and guidelines at the expense of updating its Guidelines as the Commission is resetting thresholds in the context of the existing legislation. Moreover, even if the Bill is passed into law the Commission still considers it is important to update the Guidelines. The Guidelines are an important component in providing certainty and transparency to the Commission's approach for assessing threshold compliance and undertaking post-breach inquiries.

6.5.3 Commission's Proposed Approach

331 The Commission proposes to initiate a review of the Guidelines in early 2009, and aims to complete the review by the end of 2009.

6.6 PREDICTABILITY OF BREACHES

332 Concerns were raised in respect of the predictability of threshold breaches. The first concern regards the difficulties faced by EDBs in predicting their notional revenues; the second, in respect of the Commission's approach to dealing with such breaches.

---

278 Commerce Commission, *Assessment and Inquiry Guidelines*, 19 October 2004.
279 Supra *N*24.
280 Supra *N18*, p. 36.
281 Supra *N19*, p. 55.

6.6.1 Discussion Paper Proposals

333 The Commission identified the presence of 'technical breaches' as a key factor contributing to threshold breaches. 'Technical breaches' often result not from the behaviour of an EDB but from factors attributable to the form of the thresholds, such as pass-through volumes and extreme events.

334 The Commission set out its view that reducing the scope for 'technical breaches' would be consistent with the *Cost-Effectiveness Principle*. However, the Commission recognised there may also be potential trade-offs with the incentive effects of the thresholds that require consideration.

6.6.2 Submissions

335 Four submitters commented on issues associated with improving the predictability of breaches. Orion suggested that the Commission should deal promptly with breaches and take account of factors such as past practice, materiality of the breach, and EDBs' plans to prevent recurrence of breaches.[282] PwC noted that 'technical breaches' should be waived if the breach was caused by factors outside of the EDB's control, or if the breach did not arise from behaviour inconsistent with the Purpose Statement.[283]

336 The Commission recently released its reasons for not declaring control of a number of EDBs in respect of threshold breaches that occurred in the years ending 31 March 2003-2006.[284] Publication of these reasons will provide EDBs with greater certainty in respect of threshold breaches, as well as clarity on the Commission's approach where threshold breaches were caused by factors outside the control of EDBs. The Commission has reviewed its internal processes in order that its assessments of EDBs' Threshold Compliance Statements are undertaken in a more timely fashion.

337 Aurora[285] and Powerco[286] suggested the introduction of some form of under/over carry-forward regime whereby a small amount deemed to be over the threshold one year would be deducted from the following year. Powerco also suggested introducing tolerance bands around the thresholds.[287] On the issue of tolerance bands, the Commission notes that the impact of introducing such bands effectively changes the level of the threshold and that altering the dynamics of the threshold would be inconsistent with the *Certainty* and the *Robustness Principles*.

338 Aurora suggested avoiding the selection of volatile measures that would result in an increased number of inadvertent breaches.[288] The Commission agrees that removing volatile factors that are beyond an EDB's control would, by improving predictability, reduce the likelihood of a breach occurring.

---

282 Supra *N18*, p 35.
283 Supra *N19*, p. 54.
284 Supra *N204*.
285 Supra *N23*, p. 29.
286 Supra *N26*, p. 52.
287 Ibid, p. 52.
288 Supra *N23*, p. 29.

339 Orion noted that the proposed refinements to the quality threshold in relation to extreme events and normal fluctuations in SAIDI and SAIFI would assist in reducing the number of ‘technical breaches’.[289]

6.6.3 Commission’s Proposed Approach

340 The Commission proposes to review its Guidelines to improve the transparency of its process for reviewing compliance assessments and post breach inquiries. The Commission is considering changes to the form of the thresholds to minimise the scope for ‘technical breaches’.

6.7 ASSESSMENT EXEMPTIONS

341 In accordance with the Gazette Notice[290] (“the Notice”), EDBs are currently required to submit an annual self-assessment of compliance to the Commission. Section 57K of the Act enables the Commission to prioritise its assessment of EDBs. The Commission has the option of exempting EDBs from providing a compliance statement in any given year.

6.7.1 Discussion Paper Proposal

342 The Commission sought views on the potential development of a set of criteria to grant exemptions from providing annual compliance statements.

6.7.2 Submissions

343 No submitter supported the introduction of assessment exemption criteria. Eastland considered that the costs of such a complex assessment would likely outweigh the benefits.[291] PwC also considered that the criteria would be either complex or arbitrary and possibly inequitable.[292] Aurora considered that all EDBs should be subject to the same scrutiny and regulation, and that better-performing EDBs would have no reason to seek or be granted an exemption.[293] ENA did not consider that the development of such criteria would be a good use of the Commission’s resources.[294]

6.7.3 Commission’s Proposed Approach

344 The Commission will consider whether or not the assessment exemption criteria are required, and this work will be taken forward as part of its review of its Guidelines.

6.8 EXCLUDED SERVICES

345 The Notice for the existing thresholds defines excluded services as services which are not taken into account in determining compliance against the price-path threshold.

---

289 Supra *N18*, p. 35.
290 *Commerce Act (Electricity Distribution Thresholds) Notice 2004*, March 2004.
291 Supra *N27*, p. 11, paragraph 3.25.
292 Supra *N19*, p. 54.
293 Supra *N23*, p. 29.
294 Supra *N22*, p. 49, paragraph 121.

6.8.1 Discussion Paper Proposals

346 The Commission sought the views of interested parties on the review of the definition of excluded services, and expressed its initial view that the definition of excluded services should remain as set out in the Notice.

6.8.2 Submissions

347 The majority of submitters who commented on the treatment of excluded services supported the existing definition and list of services.

348 Aurora considered the list of excluded services was appropriate with the exception of revaluation gains, which it considered were not related to the underlying operations of an EDB or its provision of service and should be an excluded service.[295] The Commission does not agree that it should include revaluation gains as an excluded service. Revaluation gains are discussed in more detail in chapter 3.

349 Eastland[296] and PwC[297] considered that the definition of regulated services should be aligned with the proposed wording in the Commerce Amendment Bill: in other words services should only be regulated 'where there is little or no competition or prospect of competition'; otherwise services should be treated as excluded. The Commission notes that the existing definition is consistent with existing legislation under Part 4A of the Act.

350 ENA[298] and Powerco[299] considered that, rather than change the definition of excluded services, it was appropriate to define "specified services" more precisely and limit the definition to existing electricity distribution services. While agreeing that the definition of specified services should be clear and unambiguous, the Commission recognises that there is a need to allow flexibility in determining the services subject to regulation. Flexibility is important as the services provided by EDBs can change over time and the arrangements should be able to determine whether any new service should be treated as excluded.

6.8.3 Commission's Proposed Approach

351 The Commission considers that submitters raised no compelling arguments for changing the existing definition of excluded services, or for adding or removing any services from the list. The Commission is minded not to consult further on the treatment of excluded services.

---

295 Supra *N23*, p. 28.
296 Supra *N27*, p. 10, paragraph 3.22.
297 Supra *N19*, p. 53.
298 Supra *N22*, p. 47, paragraph 109.
299 Supra *N26*, p. 50.

CHAPTER 7: IN CONCLUSION

352 As noted in (paragraph 9), this is a 'Methodology Paper: Update'. There are a number of areas where the Commission is not setting out views and will undertake further research. The Commission is not inviting submissions at this stage. Any correspondence received will be considered as part of the consultation process following the publication of the Commission's Initial Decisions Paper scheduled for September 2008.

Table 4 Process Timetable

Indicative Dates	Milestones	Stage
Complete	Publication of and consultation on the Discussion Paper.	**1**
June 2008	Publication of this Methodology Paper: Update.	**2**
September 2008	Publication of and consultation on the Initial Decision Paper.	**3**
October 2008	Conference and cross submissions on the Initial Decision Paper.	
November 2008	Indicative threshold levels published (to include a short consultation).	
December 2008	Publication of Final Decision Paper.	
February 2009	Publication of and consultation on draft Gazette Notice.	**4**
1 April 2009	New thresholds to apply following publication of Gazette Notice.	

Appendix 1: Glossary

LIist of Terms, Abbreviations AND Acronyms	
The Act	Commerce Act 1986
AMP	Asset Management Plan. The principal document that drives asset investment planning of EDBs.
Assessment and Inquiry Guidelines	Guidelines published by the Commerce Commission to inform interested parties of the Commission's broad process and analytical framework for assessing threshold compliance and for undertaking post-breach inquiries under the targeted control regime.
August 2006 GPS	Government Policy Statement relating to infrastructure investment incentives faced by regulated businesses.
C_1-factor	Component of the existing thresholds reflecting the relative productivity of EDBs.
C_2-factor	Component of the existing thresholds reflecting the relative profitability of EDBs.
B-factor	Component of the existing thresholds reflecting the expected industry wide (aggregate) improvements in efficiency.
Capital Expenditure (Capex)	Capex is expenditure on investment in long-lived network assets, such as overhead lines.
The Commission	Commerce Commission.
CPI	Consumer Price Index. Measure of the price change of a basket of goods and services.
E-factor	Incentive mechanism proposed by ENA and Vector. The E-factor would involve directly incorporating an energy efficiency factor into the price-path with the purpose of compensating an EDB for taking efficiency enhancing measures that promote energy efficiency or load on its network.
Electricity Distribution Business (EDB)	A lines business providing distribution services rather than transmission services (i.e. a lines business other than Transpower).
Electricity Lines Business (ELB)	A business defined to be a 'large electricity lines business' in s 57D of Part 4A, including Transpower.
FSC	Farrier Swier Consulting.
GPS	Government Policy Statements. Statements of economic policy transmitted in writing to the Commission by the Minister of Commerce under s26 of the Commerce Act.
I-factor	Form of investment incentive mechanism, proposed in the Discussion Paper. Would involve the introduction of an incentive factor to the price-path threshold to provide for increased investment requirements.

Initial Threshold	Thresholds set for the EDBs from 6 June 2003.
K-factor	An adjustment mechanism often used in ex-ante price control mechanisms to allow for the price effects of increased investment.
May 2008 GPS	Updated Government Policy Statement relating to electricity governance.
MED	Ministry of Economic Development.
Meyrick	Meyrick and Associates, trading name for Meyrick Consulting Group Pty Ltd.
MTFP	Multilateral Total Factor Productivity. Method of analysis to compare relative distribution business productivity. Allows for the comparison of absolute productivity levels, as well as growth rates.
October 2004 GPS	Government Policy Statement relating to electricity governance.
ODV	Optimised Deprival Value. Method of asset valuation based on valuing assets at the level at which they can be commercially sustained in the long term, and no more. The resulting value should be equal to the loss to the owner if they were deprived of the assets and then took action to minimise their loss.
ODV Handbook	Handbook describing the optimised deprival valuation methodology.
Operating Expenditure (Opex)	Opex is the costs of the day to day operation of the network such as staff costs, repairs, maintenance expenditures, and overheads.
Part 4A	Part 4A (Provisions Applicable to Electricity Industry) of the Commerce Act 1986, which commenced on 8 August 2001.
PBA	Parsons Brinkerhoff Associates.
Post-breach inquiry	Process Commission works through in order to decide whether or not to declare control of an EDB.
Regulatory Principles	To assess the threshold options, the Commission has developed a set of Regulatory Principles based on the evaluation criteria used to develop the existing thresholds. The Regulatory Principles reflect the Purpose Statement set out in s 57E of the Act, regulatory best practice, and have had regard to relevant statements of economic policy transmitted to the Commission under s 26 of the Act.
Process Paper	Paper published by the Commission on 30 July 2007 outlining a process for resetting the revised EDB thresholds.
Purpose Statement	The purpose of the targeted control regime as set out in s57E of the Commerce Act.
RAB	Regulatory Asset Base.

Revised Thresholds	Thresholds for EDBs that were set on 1 April 2004. Also referred to as 'existing thresholds'.
ROI	Return on Investment. Measure of profitability as disclosed by the EDBs under the Information Disclosure Requirements.
RPI	Relative Profitability Indicator. Measure of profitability providing a normalised assessment of profitability based on a common depreciation rate being applied to each EDB.
S-factor	Form of incentive mechanism proposed in the Discussion Paper which, if added to the price-path, would be designed to provide appropriate incentives to invest efficiently to improve service quality.
SAIDI	The System Average Interruption Duration Index in respect of interruptions planned by the distribution business and unplanned interruptions arising in the network of the distribution business.
SAIFI	The System Average Interruption Frequency Index in respect of planned and unplanned interruptions.
s 98 Notice	Notice issued by the Commission on 5 July 2007 under s 98 of the Commerce Act requiring EDBs to submit information on their networks.
TFP	Total Factor Productivity. Change in productivity over time, measured by the change in the ratio of outputs to inputs.
Transpower	Transpower New Zealand Limited. The state-owned enterprise that operates New Zealand's high-voltage transmission network.
X-factor	Efficiency factor. Under a CPI-X control a regulated business may increase average annual prices by no more than the change in the price of goods and services measured by CPI, less an annual percentage X.
WACC	Weighted Average Cost of Capital. The weighted average of the expected cost of equity and the expected cost of debt.