

***Chapter 9 Electricity Access Networks Code  
2004***

**Guideline for Application of the  
Regulatory Test**

22 February 2008

Economic Regulation Authority



WESTERN AUSTRALIA

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# Application of the Regulatory Test Guideline for the South West Interconnected Network

## Preamble

Chapter 9 of the *Electricity Networks Access Code 2004 (Access Code)* prescribes two distinct processes for the application of a regulatory test. The first is in respect of a major augmentation proposal which is submitted as part of the service provider's proposed access arrangement and the second is where a proposal is submitted other than as part of an access arrangement approval process.

This guideline seeks to assist electricity network service providers in preparing applications for approval under the regulatory test as set out in section 9.10 of the Access Code for a major augmentation proposal submitted as part of an access arrangement approval process. This guideline also seeks to assist electricity network service providers in preparing applications for major augmentation proposals submitted other than as part of an access arrangement approval process under section 9.15.

The guideline is also in response to the requirement under section 9.17 of the Access Code that the Authority must publish its requirements for assessing major augmentation proposals so that it receives sufficient information in a suitable form to enable it to efficiently and effectively apply the regulatory test specified by section 9.20 of the Access Code.

Guidance is therefore provided on the various aspects of the test elaborating on the process involved and on the terms used in the Access Code. It is anticipated that this guideline will be reviewed regularly and amended from time to time taking into account comments received and following practical experience in undertaking the test.

## The Regulatory Test

### What is the Regulatory Test?

The regulatory test is an assessment under chapter 9 of the Access Code of whether a proposed major augmentation to a covered network maximises the net benefit to those who generate, transport and consume electricity after considering alternative options.

In this test, a major augmentation of a covered network means an increase in the capability of the covered network to provide covered services, including by the development, construction, acquisition or commissioning of new network assets for which the new facilities investment:

- (a) exceeds \$5 million (CPI adjusted from 2004)<sup>1</sup>, where the network assets comprising the augmentation are, or are to be, part of a distribution system; and
- (b) exceeds \$15 million (CPI adjusted from 2004)<sup>2</sup>, where the network assets comprising the augmentation are, or are to be, part of:
  - (i) a transmission system; or
  - (ii) both a distribution system and a transmission system.

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<sup>1</sup> The CPI adjusted figure as at 1 July 2007 for a major augmentation of a distribution system is \$5.4 million.

<sup>2</sup> The CPI adjusted figure as at 1 July 2007 for a major augmentation of a transmission system or both a transmission and distribution system is \$16.2 million.

Alternative options, in relation to a major augmentation, are alternatives to part or all of the major augmentation, including demand-side management and generation solutions (such as distributed generation), either instead of or in combination with network augmentation.

It should be noted that replacement capital expenditure is not an augmentation except to the extent that it increases the capability of the covered network to provide covered services.

An option satisfies the regulatory test if:

- (a) the service provider's statement that a proposed major augmentation to a covered network maximises the net benefit to those who generate, transport and consume electricity after considering alternative options is defensible; and
- (b) the service provider has applied the regulatory test properly to each proposed major augmentation:
  - (i) using reasonable market development scenarios which incorporate varying levels of demand growth at relevant places; and
  - (ii) using reasonable timings, and testing alternative timings, for project commissioning dates and construction timetables for the major augmentation and for alternative options; and
- (c) if the major augmentation proposal is submitted other than as part of a proposed access arrangement, the consultation process demonstrates that the service provider has conducted a consultation process in respect of each proposed major augmentation as set out in section 9.16(c) of the Access Code.

### Objectives of the Regulatory Test

The Access Code states that the objectives of the regulatory test required for any major augmentation of a service provider's covered network are:

- (a) to ensure that before a service provider commits to a proposed major augmentation to a covered network, the major augmentation is properly assessed to determine whether it maximises the net benefit after considering alternative options; and
- (b) to provide an incentive to a service provider, when considering augmentation to a covered network, to select the option (which may involve a major augmentation or may involve not proceeding with an augmentation at all) which maximises the net benefit after considering alternative options; and
- (c) to minimise:
  - (i) delay to projects and other developments; and
  - (ii) administrative and regulatory costs; and
  - (iii) any other barriers to the entry of generators and consumers into the electricity market,arising from the application of the regulatory test.

### Elements of the Regulatory Test

The regulatory test involves a number of assessments that are described in technical language, some of which are defined in the Access Code and some are not. This section

of this guideline provides additional information to that presented in the Access Code indicating the Authority's understanding of the technical terms involved and giving guidance to those making applications under the regulatory test and to those who provide comments on such applications.

### Net Benefit

Section 9.1(a) of the Access Code states that one of the objectives of Chapter 9 is:

to ensure that before a *service provider commits* to a proposed *major augmentation* to a *covered network*, the *major augmentation* is properly assessed to determine whether it maximises the *net benefit after considering alternative options*.

The term "net benefit after considering alternative options" is defined in section 9.4 of the Access Code as:

a net benefit (measured in present value terms to the extent that it is possible to do so) to those who *generate, transport* and *consume* electricity in the *covered network* and any *interconnected system*, having regard to all reasonable *alternative options*, including the likelihood of each *alternative option* proceeding.

The Access Code also states that "net benefit":

means a net benefit (measured in present value terms to the extent that it is possible to do so) to those who *generate, transport* and *consume* electricity in (as the case may be):

- (a) the *covered network*; or
- (b) the *covered network* and any *interconnected system*.

Importantly, the term "net benefit" implies the difference between costs and benefits. Although the Access Code does not specify which costs or benefits are to be taken into account, the Access Code indicates that these are to be measured in net present value terms to the extent that it is possible to do so. This can be taken to mean that costs and benefits are to be measured to the extent that these can be identified and measured over such a period of time as is possible.

### Costs

In order to apply the regulatory test, it is important for the service provider to set out the costs of the major augmentation and each alternative option. The costs of providing and operating an option (or an alternative option) generally include:

- (a) costs incurred in constructing or in otherwise providing the option; and
- (b) operating and maintenance costs over the operating life of the option.

The costs referred to above would normally include the capital, operating and maintenance costs of ensuring that the option complies with all existing and anticipated laws, regulations and administrative determinations such as those dealing with health and safety, land management and environment pollution and the abatement of pollution (including greenhouse gas abatement). An environmental tax would normally be treated as part of a project's costs. Likewise, an environmental subsidy would normally be treated as part of a project's benefits or as a negative cost.

### Benefits

It is also important for the service provider to set out the benefits of the major augmentation and the alternative options. In so doing, the service provider should set out the total benefits of the major augmentation and the alternative option(s).

The total benefits of an option (or an alternative option) may be calculated as the benefits to those who generate, transport and consume electricity in the covered network or any interconnected system. In calculating the total benefits, the service provider should ensure that the calculations are consistent (that is, the same basis for deriving costs and benefits is used) and comply with the Access Code.

In determining the net benefit, the analysis may include, but need not be limited to the following benefits:

- (a) changes in fuel consumption arising through different methods of generation dispatch;
- (b) changes in voluntary load curtailment caused through reduction in demand-side curtailment;
- (c) changes in involuntary load shedding caused through savings in reduction in lost load, using a reasonable forecast of the value of electricity to consumers, or deferral of generating plant otherwise required solely for the purpose of maintaining system reliability;
- (d) changes in costs caused through:
  - (i) deferral of new plant;
  - (ii) differences in capital costs;
  - (iii) differences in the operational and maintenance costs; and
  - (iv) deferral of transmission investments;
- (e) changes in transmission losses;
- (f) changes in ancillary services; and
- (g) other benefits that are determined to be relevant to the case concerned.

As alternative options may generate materially different net benefits, it is important that service providers identify all benefits to parties that generate, transport and consume electricity.

### **Those Who Generate, Transport and Consume Electricity**

The definition of “net benefit after considering alternative options” in section 9.4 of the Access Code only refers to a net benefit to “those who generate, transport and consume electricity in the covered network and any interconnected system”. Accordingly, the Authority is required by the Access Code to disregard any cost or benefit which falls outside this definition.

### **Present Values**

The definition of “net benefit after considering alternative options” in section 9.4 of the Access Code requires the net benefit to be measured in present value terms to the extent that it is possible to do so. Present value calculations involve the discounting of future costs and benefits to take into account the time value of money. The difference between the present value of benefits and costs is often referred to as a net present value.

In setting out the net benefit, the service provider should explain the term over which the present value has been calculated and clearly explain the basis of the discount rate used.

Generally, a positive net present value indicates that the option is economic. In selecting the preferred option, regard would be had to the option having the highest net present value as an important but not necessarily the only consideration in the selection of the preferred option.

## Consistency

In developing net present value estimates of various options, care needs to be exercised to ensure that the methodology applied in estimating costs and benefits is consistent as between the different options. This may be especially important where the different options involve different costs and benefits that may be difficult to identify in a quantitative sense.

## Alternative Options

The regulatory test requires the Authority to consider “alternative options”. What constitutes an “alternative option” will vary depending on the major augmentation that is proposed.

The service provider should identify promising alternative network and non-network projects that it considers may individually or combined in some way produce a positive benefit if commissioned instead of the proposed option. As part of that process the service provider may wish to consider both:

- a) How different network projects could be combined.
- b) How non-network projects could reasonably be combined with network projects, to yield an option (and by extension, an alternative option) for assessment under the regulatory test. However, all the projects to be combined to form an option should have anticipated commissioning dates within a reasonable timeframe of the regulatory test assessment.

The service provider should also consider alternative options that, if implemented, would result in changes in consumer behaviour. Such alternative options can then be compared with the proposed major augmentation..

For example, the service provider may consider that there is a risk to reliability during periods of high demand. The service provider may consider that a major network augmentation could address this risk. However, an alternative option may be to agree to changes in consumption behaviour with existing users to overcome the risk to reliability.

In general, the identification of options should be informed by relevant consultation processes.

When deciding on alternative options to a proposed major augmentation, the service provider should consider:

- (a) each alternative network option, unless the service provider can demonstrate that the alternative network option is not likely to be developed in the absence of the proposed major augmentation proceeding; or
- (b) any non-network alternative option which could be developed by parties other than the service provider in the absence of the proposed major augmentation proceeding.

The service provider should apply the criteria in the regulatory test to select the alternative options. That is, options that will achieve the same (or very similar) outcome as the proposed major augmentation. For example, taking the risk to reliability example quoted above, an option that is being considered as an alternative option may not meet the same reliability requirement as the proposed major augmentation. In such a case, the option would not represent an appropriate alternative to the proposed major augmentation.

In general, the service provider should consider alternative routes as alternative options if they generate materially different costs and benefits to parties that generate, transport or consume electricity.

## Waiver of Regulatory Test

In circumstances where the Authority forms a view that the application of the regulatory test in respect of a proposed major augmentation would be contrary to the objectives of Chapter 9 of the Access Code, then the Authority may expedite, otherwise modify or waive the application of the regulatory test.

Section 9.23 of the Access Code states four circumstances where the proposed augmentation would be contrary to the objectives of Chapter 9 of the Access Code:

- (a) there are no, or it is unlikely that there are any, viable alternative options to the proposed major augmentation; or
- (b) the nature of the proposed major augmentation is such that significant advance planning is required and no alternative options exist; or
- (c) the nature of the proposed *major augmentation*, or part of it, is such that it should be submitted to the Independent Market Operator established under the *Electricity Industry (Independent Market Operator) Regulations 2004*, or
- (d) the nature of the funding of the proposed major augmentation means that the proposed major augmentation will not cause a net cost (measured in present value terms to the extent that it is possible to do so) to those who generate, transport and consume electricity in the covered network and any interconnected system,

## How the Authority assesses the Regulatory Test

The Access Code requires the Authority to assess whether the regulatory test is satisfied by the following process.

The Authority must be satisfied that:

- (a) the service provider's statement that, in the service provider's view each proposed major augmentation maximises the net benefit after considering alternative options is defensible; and
- (b) the service provider has applied the regulatory test properly to each proposed major augmentation:
  - (i) using reasonable market development scenarios which incorporate varying levels of demand growth at relevant places; and
  - (ii) using reasonable timings, and testing alternative timings, for project commissioning dates and construction timetables for the major augmentation and for alternative options.

### Reasonable market development scenarios

The Authority would generally interpret reasonable market development scenarios to mean scenarios incorporating:

- (a) reasonable forecasts of:
  - (i) electricity demand (modified where appropriate to take into account demand-side options, variations in economic growth, variations in weather patterns and reasonable assumptions regarding price elasticity);

- (ii) the efficient operating costs of competitively supplying energy to meet forecast demand from existing, committed, anticipated and modelled projects including demand side and generation projects;
  - (iii) the avoidable costs of options and alternative options including demand side and generation projects and whether all avoidable costs are completely or partially avoided or deferred;
  - (iv) the cost of providing sufficient ancillary services to meet the forecast demand; and
  - (v) the capital and operating costs of other regulated network and market network service projects that are augmentations consistent with the forecast demand and generation scenarios.
- (b) sensitivity testing.

### Sensitivity testing

The Authority considers that the calculation of the present value of net benefits would generally encompass sensitivity testing on key input variables. Sensitivity testing may be carried out on, but not limited to, the following, and should be appropriate to the size and type of project:

- (a) Benefits:
  - (i) using all reasonable methodologies; and
  - (ii) testing reasonable forecasts of the value of electricity to consumers.
- (b) Price elasticity of demand.
- (c) Capital and operating costs of alternative options.
- (d) Discount rate (the lower boundary should be the regulated cost of capital).
- (e) Market demand.
- (f) Commissioning dates of options and alternative options.
- (g) Market based regulatory instruments that may be used to address greenhouse and environmental issues.
- (h) Other sensitivity testing determined to be relevant and material to the case concerned.

### Consultation

Section 9.9 of the Access Code states that a service provider must use its reasonable endeavours to ensure that it makes sufficient information available in a timely manner in respect of a proposed major augmentation to maximise the opportunity for potential alternative options to be viable.

Where a major augmentation proposal has been submitted as part of the access arrangement approval process, the Authority will generally consider the major augmentation as part of that approval process and in accordance with sections 9.11 to 9.14 of the Access Code. As part of that process, the Authority would call for submissions on:

- (a) the service provider's view that each proposed major augmentation maximises the net benefit after considering alternative options; and
- (b) reasonable alternative options to each proposed major augmentation.

Where a major augmentation proposal has been submitted outside of the access arrangement approval process, the Authority is required to be satisfied that the consultation process conducted by the service provider meets the criteria specified in section 9.16(c) of the Access Code.

Section 9.16(c) of the Access Code states:

9.16 A *major augmentation proposal* submitted under section 9.15:

....

- (c) must demonstrate that the *service provider* has conducted a consultation process in respect of each *proposed major augmentation* which:
- (i) included public consultation under Appendix 7; and
  - (ii) gave all *interested persons* a reasonable opportunity to state their views and to propose *alternative options* to the *proposed major augmentations*, and that the *service provider* had regard to those views and *alternative options*; and
  - (iii) involved the *service provider* giving reasonable consideration to any information obtained under sections 9.16(c)(i) and 9.16(c)(ii) when forming its view under section 9.16(b);

In complying with this section, the service provider would generally need to provide comprehensive information on the consultation process it has followed including details of workshops, public meetings; stakeholders consulted; the methodology adopted in dealing with the information obtained and how regard was given to any alternative options proposed and issues raised during the consultation process.

### **Submission of documents**

Where a major augmentation proposal has been submitted as part of the access arrangement approval process, it is open for the Authority to seek further information where such information is inadequate.

Where a major augmentation proposal has been submitted outside of the access arrangement approval process, the Code provides that if sufficient information is not provided, the Authority must allow a reasonable opportunity to provide adequate information and, if such information is not adequate, it is open to the Authority to determine that the regulatory test is not satisfied.

Accordingly, in order for the Authority to apply the regulatory test under the Code, the service provider must, at a minimum, provide the sufficient information in a suitable form for the Authority to apply the regulatory test.

The type of information required by the Authority includes (but is not limited to):

- details of the major augmentation;
- details of the costs and benefits of the major augmentation;
- details of each alternate option;
- details of the costs and benefits of each alternate option;
- a copy of the market development scenarios used, the assumptions used and any supporting evidence, information and documents;
- comprehensive information on the consultation process it has followed including:
  - details of workshops;
  - public meetings;

- stakeholders consulted;
- the methodology adopted in dealing with the information obtained and how regard was given to any alternative options proposed and issues raised during the consultation process.

This list is not exhaustive. The service provider should submit as much relevant information and supporting material as possible in order for the Authority to apply the regulatory test.

The service provider should provide at least one original submission and **[three]** copies in hard copy form as well as electronic versions. The service provider should also provide public versions of documents that the service provider states to be confidential so that the Authority may publish the public documents in order to solicit meaningful feedback.

The Authority considers that the submissions it receives from interested parties are an important and useful input to its assessment of a proposal. Accordingly, when the Authority undertakes a public consultation process it seeks to be as transparent as possible and endeavours to ensure that all relevant information is publicly available to assist parties in preparing their submissions.

Therefore, where the service provider considers any of the information contained in documents that are provided to the Authority is commercially sensitive and confidential, it should clearly indicate the parts of the document for which confidentiality is claimed and specify in reasonable detail the basis for the claim.