

NORTHERN TERRITORY OF AUSTRALIA

ELECTRICITY NETWORKS (THIRD PARTY ACCESS) ACT

As in force at 1 April 2000

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NORTHERN TERRITORY OF AUSTRALIA

As in force at 1 April 2000

ELECTRICITY NETWORKS (THIRD PARTY ACCESS) ACT

An Act to establish a code to regulate third party access to electricity networks and for other purposes

Part 1 Preliminary

1 Short title

This Act may be cited as the *Electricity Networks (Third Party Access) Act*.

2 Commencement

The provisions of this Act come into operation on the date, or respective dates, fixed by the Administrator by notice in the *Gazette*.

3 Crown to be bound

- (1) This Act and the Network Access Code binds the Crown, not only in the right of the Territory but also, so far as the legislative power of the Legislative Assembly permits, the Crown in all its other capacities.
- (2) Nothing in the Network Access Code makes the Crown liable to a civil penalty that may be imposed under the Code.
- (3) Subsection (2) does not apply to an authority of the Territory granted a licence under the *Electricity Reform Act*.

Part 2 Network Access Code

4 Network Access Code

- (1) The Network Access Code is the Electricity Networks (Third Party Access) Code contained in the Schedule.
- (2) The Network Access Code is not a law of the Territory.

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- (3) In a law of the Territory, a reference to the Network Access Code is a reference to the Network Access Code as amended from time to time.

5 Initial coverage of Network Access Code

- (1) On the commencement of this Act, the Network Access Code applies to the prescribed electricity networks operated by the Power and Water Authority.
- (2) From a prescribed date, the Network Access Code applies:
- (a) to the Darwin-Katherine transmission line; and
 - (b) to any other prescribed networks.
- (3) Before a date can be prescribed under subsection (2):
- (a) the Minister must review the Network Access Code to take into account the characteristics of privately owned networks differing from those of government owned networks; and
 - (b) the Commonwealth Minister must have decided under Part IIIA of the *Trade Practices Act 1974* of the Commonwealth that the Network Access Code is an effective access regime for the networks referred to in subsection (2).
- (4) In this section, **prescribed** means prescribed by the Minister by notice in the *Gazette*.

6 Amendment of Network Access Code

The Minister may, by notice in the *Gazette*, amend the Network Access Code.

7 Prescribing of matters for purpose of Network Access Code

The Minister may, by notice in the *Gazette*, prescribe matters:

- (a) required or permitted by the Network Access Code to be prescribed; or
- (b) necessary or convenient to be prescribed for carrying out or giving effect to the Network Access Code.

8 Review of Network Access Code

- (1) The Minister may review the Network Access Code at any time.

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- (2) The Minister must review the Network Access Code before 30 June 2003.
 - (3) The regulator must when requested by the Minister prepare reports that the Minister requires to enable the Minister to perform his or her functions under this section.

Part 3 Regulator

9 Regulator

The Utilities Commission established by the *Utilities Commission Act* is the regulator.

10 Powers and functions of regulator

- (1) The functions of the regulator are:
 - (a) to monitor and enforce compliance with the Network Access Code; and
 - (b) to perform any other functions conferred on the regulator by the Network Access Code.
- (2) The regulator has the power to all things that are necessary or convenient to be done for or in connection with or incidental to the performance of its functions.
- (3) In performing its functions, the regulator must comply with the Network Access Code.

11 Ministerial direction

- (1) The regulator is subject to direction of the Minister with regard to general policies to be followed by the regulator in matters of administration (including financial administration).
- (2) No ministerial direction can be given to the regulator:
 - (a) to suppress or vary determinations or approvals made by the regulator under the Network Access Code;
 - (b) to compel the regulator to conciliate or refrain from conciliating an access dispute under the Network Access Code;
 - (c) to compel the regulator to refer or refrain from referring an access dispute to arbitration under the Network Access Code;

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- (d) to compel the regulator to appoint or refrain from appointing a particular person as an arbitrator under the Network Access Code;
 - (e) to compel the regulator to make a determination or an approval under the Network Access Code on specific terms; or
 - (f) to require the regulator in any other way to adopt a course of action that would directly affect the terms and conditions under which network users or contestable customers have access to electricity networks under the Network Access Code.

12 Regulator may delegate

- (1) The regulator may delegate any of its powers and functions under the Network Access Code.
- (2) A delegation under this section to a person may be to a named person or to a person from time to time holding, acting in or performing the duties of an office, designation or position.
- (3) A power or function delegated under this section when exercised or performed by the delegate is to be taken to have been exercised or performed by the regulator.
- (4) A delegation under this section does not prevent the exercise of a power or the performance of a function by the regulator.
- (5) A delegation under this section:
 - (a) is to be in writing; and
 - (b) may be conditional or unconditional.

13 Reports to Minister

- (1) The regulator must, at the request of the Minister, report to the Minister on the cost and other aspects of the provision of network access services or any aspect of the operation of the Network Access Code.
- (2) The regulator must, on or before 30 September in every year, or a later date each year that is prescribed, forward to the Minister a report on the work carried out by the regulator under the Network Access Code for the financial year ending on the preceding 30 June.

- (3) The Minister must cause a copy of the report to be laid before the Legislative Assembly within 6 sitting days of the Legislative Assembly after receiving it.

14 Determinations and approvals are final

- (1) Subject to subsection (2), a determination or approval of the regulator made under Part 3 of the Network Access Code is final.
- (2) An appeal lies to the Supreme Court in respect of a determination or approval of the regulator made under the Network Access Code.
- (3) An appeal may only be made on the grounds that:
 - (a) there has been bias; or
 - (b) the facts on which the decision is based have been misinterpreted in a material respect.
- (4) An appeal must be commenced not later than 14 days after the date the determination or approval is made or any longer period that the Supreme Court may allow.
- (5) Part 6 of the Utilities Commission Act does not apply in respect of a determination or approval of the regulator made under the Network Access Code.

Part 4 Arbitration under Network Access Code

15 Powers of arbitrator

- (1) An arbitrator appointed under the Network Access Code may do any of the following things for the purpose of arbitrating an access dispute:
 - (a) give a direction in the course of, or for the purposes of, an arbitration hearing;
 - (b) summon a person to appear before the arbitrator to give evidence and to produce documents (if any) referred to in the summons;
 - (c) hear and determine the arbitration in the absence of a person who has been summoned or served with a notice to appear;

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- (d) give an oral or written order to a person not to divulge or communicate to anyone else specified information that was given to the person in the course of an arbitration, unless the person has the arbitrator's permission;
 - (e) generally give directions and do things that are necessary or expedient for the speedy hearing and determination of the access dispute.
- (2) A person must not do an act or thing in relation to the arbitration of an access dispute that would be a contempt of court if the arbitrator were a court of record.

Penalty: 500 penalty units.

- (3) Subsection (1) has effect subject to any other provision of the Network Access Code or the Regulations.
- (4) A person who in accordance with the Regulations is served with a summons to appear as a witness before an arbitrator must not, without reasonable excuse, fail to:
- (a) attend as required by the summons; or
 - (b) appear and report himself or herself from day to day unless excused or released from further attendance by the arbitrator.

Penalty: 500 penalty units.

- (5) A person must not:
- (a) threaten, intimidate or coerce another person; or
 - (b) cause or procure damage, loss or disadvantage to another person,

because the other person:

- (c) proposes to produce, or has produced, documents to an arbitrator; or
- (d) proposes to appear or has appeared as a witness before an arbitrator.

Penalty: 500 penalty units.

- (6) An award made by the arbitrator takes effect as a contract between the network user and the network provider and, subject to the provisions of the Network Access Code, is binding on the parties to the arbitration in which it is made.

16 Costs of arbitration may be recovered

If under the Network Access Code a party to an arbitration is required to pay costs for the arbitration, the regulator may recover the amount in a court of competent jurisdiction as a debt due and payable by the party.

17 Non-application of *Commercial Arbitration Act*

The *Commercial Arbitration Act* does not apply to an arbitration under the Network Access Code.

18 Appeal to Supreme Court on question of law

An appeal lies to the Supreme Court in respect of an award made under the Network Access Code, or a decision not to make an award, on a question of law.

Part 5 Enforcement**19 Injunctive remedies**

- (1) The Supreme Court may grant an injunction:
 - (a) restraining a person from contravening a provision of the Network Access Code or a provision of an access agreement or award made under the Network Access Code;
 - (b) requiring a person to comply with a provision of the Network Access Code or a provision of an access agreement or award made under the Network Access Code;
 - (c) requiring a person to take an action, or adopt a practice, to remedy a contravention of the Network Access Code or to prevent a re-occurrence of a contravention;
 - (d) requiring a person to implement a specified program for compliance with the Network Access Code;
 - (e) requiring the physical disconnection of a person's connection points if contemplated by the Network Access Code; or
 - (f) requiring a person to comply with requirements prescribed by the Regulations; or
 - (g) suspending rights under, or terminating, an access agreement or access award.

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- (2) The power of the Supreme Court to grant an injunction restraining a contravention of a provision of the Network Access Code or an access agreement or award made under the Network Access Code may be exercised:
 - (a) whether or not the defendant has previously contravened the same provision; and
 - (b) whether or not there is imminent danger of substantial damage to any person.
 - (3) The power of the Supreme Court to grant an injunction requiring compliance with a provision of the Network Access Code or an access agreement or award made under the Network Access Code may be exercised:
 - (a) whether or not the defendant has previously failed to comply with the same provision; and
 - (b) whether or not there is imminent danger of substantial damage to any person.
 - (4) The Supreme Court may make an interim injunction under this section.
 - (5) An application for an injunction under this section may only be made by the regulator.
 - (6) The Supreme Court may grant an injunction by consent without inquiry into the merits of the application.
 - (7) The Supreme Court cannot require the regulator or any other person to give an undertaking as to damages as a condition of granting the injunction.
 - (8) The Supreme Court may, on application by the regulator, discharge or vary an injunction.

20 Enforcement of arbitrator's requirements

- (1) If a person fails to comply with an order, direction or requirement of an arbitrator under the Network Access Code, the arbitrator may certify the failure to the Supreme Court.
- (2) The Supreme Court may inquire into the case and make orders that it considers appropriate in the circumstances.

Part 6 Proceedings and civil penalties

21 Definition

In this Part, **Code participant** means a network provider, network user or access applicant under the Network Access Code.

22 Proceedings in respect of Network Access Code

(1) A person:

- (a) may not bring proceedings against the regulator; or
- (b) being a person other than the regulator – may not bring proceedings against a Code participant,

in respect of an alleged contravention of the Network Access Code unless the alleged contravention is of a kind that, under the Network Access Code or this Act, is recognised as a contravention that gives rise to an obligation or liability of the regulator or the Code participant to the first-mentioned person.

(2) A person (other than the regulator) may not in any proceedings seek to rely on an alleged contravention of the Network Access Code by another person unless that person is a Code participant and the other person is also a Code participant or is the regulator.

(3) Nothing in subsection (1) or (2):

- (a) affects the right of a person to bring proceedings in respect of any matter or thing, or seek any relief or remedy, if the cause of action arises, or the relief or remedy is sought, on grounds that do not rely on the Network Access Code; or
- (b) prevents the use of the Network Access Code as evidence in any proceedings of standards of conduct, practices, procedures or rules applicable in the electricity industry.

23 Regulator may demand civil penalty for breach of Network Access Code

If regulator considers that a Code participant is in breach of a provision of the Network Access Code that is prescribed as a civil penalty provision, the regulator may, by notice given to the Code participant, require the Code participant to pay to the regulator as a civil penalty the amount prescribed as the civil penalty that the regulator may demand for a breach of the provision by a Code participant or a Code participant of that class.

24 Enforcement of payment of civil penalty

A notice of the regulator under section 23 may be registered in a court of competent jurisdiction and proceedings for the enforcement of the notice may be taken as if the notice were a judgment of the court.

25 Obligations under Network Access Code to make payments

If, under the Network Access Code, a Code participant is required to pay an amount to another Code participant, and the amount is not paid within 28 days after it is due in accordance with the Network Access Code, the Code participant may recover the amount in a court of competent jurisdiction as a debt payable by the other Code participant.

Part 7 Miscellaneous**26 Immunity from liability**

- (1) No liability attaches to a power system controller, or an officer or employee of a power system controller, for an act or omission done in the exercise or performance, or purported exercise or performance, of a power or function under the Network Access Code unless it is done or made in bad faith.
- (2) No liability attaches to a network provider, or an officer or employee of a network provider, for an act or omission done:
 - (a) in the exercise or performance, or purported exercise or performance, of a power or function under the Network Access Code; or
 - (b) in providing or not providing a network access service under an access agreement or access award,unless it is done or made in bad faith.
- (3) No liability attaches to an arbitrator appointed under the Network Access Code for an act or omission done in the exercise or performance, or purported exercise or performance, of a power or function under the Network Access Code unless it is done or made in bad faith.

27 Declaration as regulated industry

The electricity networks industry is declared to be a regulated industry for the purposes of the *Utilities Commission Act*.

28 Regulations

- (1) The Administrator may make regulations, not inconsistent with this Act, prescribing matters:
 - (a) required or permitted by this Act to be prescribed; or
 - (b) necessary or convenient to be prescribed for carrying out or giving effect to this Act.
- (2) The Regulations may prescribe:
 - (a) a provision of the Network Access Code as a civil penalty provision;
 - (b) a civil penalty, not exceeding \$100,000, that the regulator may require from a person who is in breach of a civil penalty provision;
 - (c) a civil penalty, not exceeding \$10,000, that the regulator may, in accordance with the Regulations, demand from a person for each day the person continues in breach of a civil penalty provision; and
 - (d) the procedures to be followed by the regulator when imposing a civil penalty or when exercising any other power or function under the Network Access Code.

Schedule Electricity Networks (Third Party Access) Code

section 4

Part 1 Introduction

1 Access to electricity network infrastructure facilities

- (1) This Code deals with access to certain electricity networks in the Territory.
- (2) The requirement for access to electricity networks arises because of the Government's decision to progressively open up certain sectors of the Territory's electricity market to competition at times and to levels prescribed by the Regulatory Minister.
- (3) As electricity networks involve infrastructure facilities that cannot be economically duplicated, third party use of those networks is an essential pre-requisite for introducing competition in upstream or downstream markets.
- (4) References to a network provider in this Code are to operators of those networks covered by this Code as prescribed from time to time by the Regulatory Minister.
- (5) The network provider is the operator of the electricity network and provides network access services in a particular geographical area.

2 Underlying principles

This Code aims to be an effective access regime under Part IIIA of the *Trade Practices Act 1994* of the Commonwealth and so meet the requirements laid down in clause 6 of the Competition Principles Agreement.

3 Key definitions

In this Code, unless the contrary intention appears:

access agreement means a contract or agreement for the provision of network access services entered into between a network provider and a network user under the Code, and includes an award made by an arbitrator for the same purpose.

access applicant is a person who wants access to services provided by an electricity network, or who wants to vary an existing access agreement in a significant way or to a significant extent.

access application means an access application made under clause 10 of the Code.

access dispute means a dispute referred to in clause 35 of the Code.

access offer means an offer made by the network provider to an access applicant to provide network access services (and includes any modification to a previous offer).

augment and **augmentation**, in relation to an electricity network, means to enlarge or expand the capability of the electricity network to accept, transport and deliver electricity.

award means an award made by an arbitrator under the Code.

capital contribution means a financial contribution made by a network user in accordance with the terms of a formal access agreement towards the capital investment associated with designing, constructing, installing and commissioning the electricity network assets of a network provider.

common services mean network services that ensure the integrity of the electricity network and benefit all users and that cannot be practically allocated to users on a locational basis.

connect or **connection** means to establish an effective link via installation of the necessary connection equipment.

connection equipment or **connection assets** mean all of the electrical equipment that is used only in order to transfer electricity to or from the electricity network at the relevant connection point and includes any transformers or switchgear at the relevant point or which is installed to support or to provide backup to such electrical equipment as are necessary for that transfer.

connection point means a point at which electricity is transferred to or from an electricity network.

connection services, in relation to a connection point, mean the establishment and maintenance of that connection point.

consumer price index means an appropriate index of consumer prices as published by the Australian Bureau of Statistics.

contract maximum demand, in respect of a connection point, means the contract maximum demand (expressed in kW or kVA) specified in the access agreement in respect of the connection point (if any).

declared sent-out capacity, in respect of a connection point, means the maximum level at which electricity may be transferred to the electricity network at the connection point (expressed in kW or kVA) specified in the access agreement in respect of the connection point (if any).

disconnect, in respect of a connection point, means to operate switching equipment so as to prevent the transfer of electricity through the connection point.

distribution network/system means that part or those parts of the electricity network used for transporting electricity at nominal voltages of less than 66kV and a nominal frequency of 50Hz.

electricity network or **electricity network assets/facilities** mean the connection assets and network system assets which together are operated by the network provider for the purposes of transporting electricity from generators of electricity to a transfer point or to consumers of electricity.

energy usage period means an interval of time (eg. half hour or five minutes) as determined by a network provider in accordance with good electricity industry practice.

entry point means a connection point at which electricity is more likely to be transferred to the electricity network than to be transferred from the electricity network.

entry services mean those network access services provided to a generator user at an entry point to the electricity network.

exit point means a connection point at which electricity is more likely to be transferred from the electricity network than to be transferred to the electricity network.

exit services mean those network access services provided to a load user at an exit point.

force majeure event, in respect of a party to an access agreement, means any event outside the party's control including:

- (a) any act of God, lightning, earthquake, storm, fire, flood or natural disaster;
- (b) any insurrection or civil disorder;
- (c) any determination, award or order of any court or tribunal;
- (d) any act or omission of government or any unrelated government instrumentality;

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- (e) any industrial dispute of any kind;
 - (f) any act or omission of any persons with facilities connected to the network that affects or frustrates the party's ability to perform its obligations under the access agreement; or
 - (g) any significant plant or equipment failure which could not have been avoided by the exercise of good electricity industry practice.

generator user means a person who has been granted access to the electricity network by the network provider and who supplies electricity into the electricity network at an entry point.

generator or **generation unit/facilities** mean an electricity generator, and related equipment essential to the generator's operation, which supplies electricity into an electricity network and together function as a single entity.

good electricity industry practice means the exercise of that degree of skill, diligence, prudence and foresight that reasonably would be expected from a significant proportion of operators of facilities forming part of a power system for the generation, transmission, distribution and supply of electricity comparable to those applicable to the relevant facility consistent with applicable laws, the Access Code, the Technical Code, licences, industry codes, reliability, safety and environmental protection.

group of connections, in respect of a network user's access agreement, means the entry points and exit points specified in the access agreement and the entry point or points from which energy is to be supplied to one or more of those connection points.

included network access services mean all the network access services supplied by a network provider other than those specified by the regulator under clause 72 of the Code.

initial year means the period from the commencement of the Code until the following 30 June.

load user means a person who has been granted access to the electricity network by the network provider and who takes electricity from the electricity network at an exit point.

load means the amount of electrical energy delivered at a defined instant at a connection point or aggregated over a group of connection points.

metering equipment means equipment used to measure and record the rate at which electricity is transferred and the quantity of electricity transferred to and from an electricity network.

network access services mean the services provided to network users by a network provider whether in the form of connection services or use of network services.

network capacity constraint means the limitation on the capability of an electricity network such that it is unacceptable to transport the level of electricity that would occur if the limitation did not exist.

network energy loss means the energy loss incurred in the transportation of electricity from an entry or transfer point to an exit point or another transfer point on an electricity network.

network provider means the person who provides or is in a position to provide the network access services in respect of a particular electricity network.

network system assets mean the apparatus, equipment, plant and building used to convey, and control the conveyance of, electricity.

network user means a person, whether a load user or a generator user, who has been granted access to the electricity network by the network provider in order to transport electrical energy to or from a particular point.

out-of-balance power means the supply of electrical energy to a load user by a generator other than the generator user who is party to the access agreement when there is a mismatch between the transfer of electrical energy into and out of the electricity network by the parties to the access agreement.

PAWA Generation means the business division of the Power and Water Authority responsible for the operation of generators owned and operated by the Authority.

PAWA Networks means the business division of the Power and Water Authority responsible for the operation of the electricity transmission and distribution networks owned and operated by the Authority.

PAWA Retail means the business division of the Power and Water Authority responsible for trading in electricity.

permitted tolerance limit means a set limit on the mismatch between the transfer of electrical energy into and out of the electricity network after account is taken of energy losses expected in the conveyance of that electricity.

Power and Water Authority means the authority established under the *Power and Water Authority Act*.

power system controller means the person or unit licensed under the *Electricity Reform Act* to control the day-to-day dispatch of generators and associated ancillary services and for the maintenance of system security.

power system means the generation facilities and electricity network facilities which together are integral to the supply of electricity, operated as an integrated arrangement.

prescribed means prescribed by a Minister by notice in the *Gazette*.

pricing schedule, in respect of a financial year, means the schedule of prices published in respect of that financial year by a network provider with respect to network access services or by PAWA Generation with respect to out-of-balance energy supplied.

reference tariff means the maximum tariff to apply in a particular year with respect to a specific individual standard network access service, as set out in a pricing schedule published by PAWA Networks.

regulator means the authority, officer or person to which or whom the functions of the regulator under the Code are assigned by the *Electricity Networks (Third Party Access) Act*.

regulatory control period means the period between major price reviews during which time the methodology used in setting prices is held constant. the first regulatory control period is the period between commencement of the Code and 30 June 2003 and the second regulatory control period is expected to be the period between 1 July 2003 and 30 June 2008.

Regulatory Minister means the Minister having responsibilities for Part 3 of the *Electricity Reform Act*.

revenue cap means the maximum allowed revenue determined by the regulator to be raised during a financial year, or nominated part of a year, from included network access services by the network provider.

spare network capacity means the capacity to transport electricity over a particular electricity network which the network provider assesses is in surplus to the capacity that existing end-use customers forecast will be required to satisfy their reasonably foreseeable requirements for the transportation of electricity.

standard network access services mean the network access services for which reference tariffs are published in respect of a financial year.

standby generation agreement means a contract or agreement for the provision of standby generation services entered into between network users and providers of such standby generation services in support of a particular access agreement.

standby power means the amount of electrical energy which could be supplied to a load user in accordance with the terms of a standby generation agreement.

transfer point means a point at which electricity is transferred between different owned and operated electricity networks.

transmission network/system means that part or those parts of the electricity network used for transporting electricity at nominal voltages of 66kV or higher and a nominal frequency of 50Hz.

use of network services mean the services of providing, or providing and operating, electricity network facilities for the purpose of transporting electrical energy via electricity transmission or electricity distribution networks, including:

- (a) those network services provided to a network user for use of the electricity network for the transportation of electricity that can be reasonably allocated to a user on a locational basis, including:
 - (i) the electricity network's ability to transfer electricity;
 - (ii) configuration switching capability at nodes;
 - (iii) network security and stabilisation services; and
 - (iv) voltage and reactive control capabilities at nodes; and
- (b) network operation services, including:
 - (i) control of the performance of the electricity network;
 - (ii) monitoring of faults on the network and rectification of faults identified;
 - (iii) network maintenance of the electricity network; and
 - (iv) the management of the voltage of electricity transported through the electricity network.

4 Structure of Code

- (1) Part 2 establishes the terms and conditions under which access to an electricity network is to be granted to third parties and lays down the processes to be followed in negotiating and implementing access agreements and for resolving access disputes.
- (2) Part 3 specifies the principles to be followed by the regulator and by the providers of both network access services and out-of-balance energy when setting the prices to be paid by network users for the conveyance of electricity through an electricity network.

Part 2 Access framework

5 Purpose of Part

This Part sets out:

- (a) the terms and conditions under which access to an electricity network is to be granted to third party users and the associated obligations both on the network provider and on network users;
- (b) the framework within which access agreements are to be negotiated and implemented; and
- (c) the mechanism for resolving access disputes.

Chapter 1 Obligations of network provider

6 Obligation to provide access

- (1) The network provider must use all reasonable endeavours to accommodate the requirements of those seeking access to the electricity network.
- (2) Terms and conditions on which access is to be made available are set out in Chapter 3.

7 Segregation of network provider's accounts and records

- (1) The network provider must keep accounts and records relating to its electricity network business that give a true and fair view of the business (as distinct from other businesses carried on by the network provider or any associate or related body corporate of the network provider).

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- (2) The accounts and records must be capable of distinguishing among the separate geographical electricity networks operated by the network provider.
 - (3) The accounts and records must comply with guidelines published by the regulator.
 - (4) The accounts and records must be kept in a way that gives:
 - (a) a comprehensive view of the network provider's legal and equitable rights and liabilities in relation to its electricity network;
 - (b) a true and fair view of:
 - (i) income and expenditure derived from, and relating to, its electricity network; and
 - (ii) assets and liabilities of the network provider's business so far as they relate to its electricity network; and
 - (c) sufficient information to enable the pricing principles and methodologies set out in Part 3 to be applied in a reasonable manner.
 - (5) The network provider must cause to be kept separate accounts and records referred to in this clause in relation to the business of any associate or related body corporate of the network provider to whom network access services are provided by the network provider.
 - (6) The regulator may, at times the regulator thinks fit, seek the certification of an auditor that the accounts and records of the network provider comply with this clause.
 - (7) In this clause, **accounts and records** mean accounts and records kept for regulatory and pricing purposes.

8 Provision of information to regulator and arbitrators

The network provider at all times must permit the regulator and any arbitrator appointed under this Code to have access to the accounts and records pertaining to a network access service that the regulator or the arbitrator specifies are required for the purpose of making determinations under this Code.

9 Publication of technical codes and criteria

- (1) The network provider must comply with good electricity industry practice when providing network access services and in planning, operating, maintaining, developing and augmenting the electricity network.
- (2) The network provider must prepare and make publicly available a technical code and network planning criteria:
 - (a) on the commencement of this Code; or
 - (b) if this Code's coverage of the network provider occurs after commencement of this Code – on or before commencement of the coverage.
- (3) The technical code and network planning criteria are to cover requirements set out in Schedule 1.
- (4) The network provider must consult the regulator about the contents of the technical code and the network planning criteria before they are published.
- (5) Before amending the technical code or network planning criteria in a material way, the network provider must:
 - (a) make publicly available details of the proposed amendments; and
 - (b) allow a reasonable time for persons affected to comment on the proposed amendments.
- (6) The network provider must provide a copy of the technical code or network planning criteria to any user or applicant who requests it.

Chapter 2 Negotiation of access**10 Access application**

- (1) An access applicant may put a written proposal (the access application) to the network provider setting out:
 - (a) the nature and extent of the access required, or any significant variation to access provided under an existing access agreement; and
 - (b) any other information relevant to formulating a response to the access application (including information relevant to determining the price to be charged for access or on account of the variation as the case requires).

- (2) An access application:
 - (a) must contain the information listed in Schedule 2; and
 - (b) may specify that the applicant wishes the network provider to make a preliminary assessment of the access application in accordance with clause 15.
- (3) If implementation of an access application would require an augmentation to network infrastructure facilities or to a connection point to the network, the access application may include a proposal for the addition or extension to the facilities involved.
- (4) The network provider may, within 21 days after receiving an access application, request the access applicant to provide further information that the network provider reasonably requires to enable the network provider to consider the access application.
- (5) The network provider must, within 21 days after receiving an access application or, if the network provider has requested further information under subclause (4), within 21 days after receiving the information:
 - (a) give written notice of the access application to:
 - (i) the regulator; and
 - (ii) any network user whose rights under an existing access agreement or award would be affected by implementation of the application; and
 - (b) provide to the access applicant the name and contact details of any other respondents.
- (6) The respondents to the access application are:
 - (a) the network provider; and
 - (b) any network user whose rights under an existing access agreement or award would be affected by implementation of the application.

11 Initial response

- (1) The network provider must, within 21 days after receiving an access application or, if within that period the network provider has requested further information, within 21 days after receiving the information, provide an initial response to the access application.

(2) The initial response is to include:

- (a) the period within which the network provider is able to make a preliminary assessment of the access application;
- (b) whether the network provider is able to make an access offer within 90 days of receiving the access application and, if not, an alternative period that is reasonable for making the access offer; and
- (c) an estimate of the reasonable expenses expected to be incurred by the network provider in processing the access application, preparing an initial response, carrying out a preliminary assessment, making an offer and negotiating the access agreement.

12 Duty to negotiate

- (1) The network provider and access applicant must, once an access offer is made, endeavour to accommodate each others' reasonable requirements and must negotiate in good faith with a view to reaching agreement on whether the access applicant's requirements as set out in the access application (or some agreed modification of the requirements) could reasonably be met and, if so, the terms and conditions for the provision of access for the access applicant.
- (2) A respondent to the access application whose rights or prospective rights of access will be affected by implementation of the access application must also negotiate in good faith with the access applicant with a view to reaching agreement on the provision of access to the access applicant and any consequent variation of the respondent's rights or prospective rights.

13 Referral of issues to regulator

An access applicant, the network provider or any other respondent to an access application may request the regulator to consider and, if appropriate, to give advice or directions with respect to any matter that arises in connection with the operation of this Chapter in order to facilitate the conduct of negotiations under this Chapter.

14 Obligations of access applicant regarding information provided

- (1) An access applicant must use reasonable endeavours to ensure that the access application and information provided to the network provider are accurate and complete.

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- (2) If an access applicant becomes aware of material information relevant to the access application that is not included in the access application or of any material alteration to information contained in or relevant to the access application, the applicant must promptly notify the network provider in writing of the information or alteration.
- (3) If the network provider:
- (a) receives a notice under subclause (2); or
 - (b) becomes aware of material information relevant to the access application that is not included in the access application or of any material alteration to information contained in or relevant to the access application,

the network provider may, by written notice to the applicant, extend the period within which a response or a preliminary assessment is due by the period that the network provider reasonably requires.

15 Preliminary assessment

- (1) If an access application specifies that the applicant wishes the network provider to make a preliminary assessment of the access application, the network provider must:
- (a) make the assessment; and
 - (b) give the applicant a report of the assessment,
- within the period for making the preliminary assessment specified in the initial response to the application.
- (2) A preliminary assessment must contain the following information:
- (a) whether it is likely that there is sufficient spare network capacity to provide the network access services requested in the access application or whether the electricity network will have to be augmented to provide those services;
 - (b) whether it is likely that any connection equipment will have to be installed or upgraded to provide the connection services (if any) requested in the access application; and
 - (c) whether or not a capital contribution will be required from the user.

16 Access offer

- (1) Unless agreed by the access applicant and the network provider, the network provider must, within the period of time specified in the

initial response to the access application or, if within that period the network provider has requested further information, within that period of time after receiving the information make an access offer to provide to the applicant the network access services requested in the access application.

- (2) An access offer must:
- (a) relate to the transportation of electricity between:
 - (i) a specified entry point or points and a specified exit point or points; or
 - (ii) with respect to an inter-network access request – a specified entry point or points and a transfer point, or a transfer point and a specified exit point or points;
 - (b) be for network access services requested in the access application and be consistent with any technical parameters specified in that access application;
 - (c) be in writing and contain the proposed terms and conditions on which the network provider will provide the access services including those terms and conditions listed in Schedule 3;
 - (d) specify the charges for the access services requested in the access application;
 - (e) be consistent with this Code (and the technical code);
 - (f) be consistent with the pricing schedules approved by the regulator under Part 3; and
 - (g) with respect to terms and conditions other than price – be fair and reasonable and consistent with good electricity industry practice.
- (3) Once the network provider makes an access offer to an applicant, and an access agreement in relation to the access services that are the subject of the access offer is not concluded within 30 days of the day on which the access offer is made, the access offer expires and the access application lapses.
- (4) If the access offer contemplates any augmentation of the network system or connection points to the network involved, the network provider may include in the access offer a condition that the access applicant makes a capital contribution in respect of any capital investment involved if the amount of the contribution is in accordance with the principles in Chapter 8 in Part 3.

17 Limitation on network provider's right to contract to provide access

The network provider must not enter into an access agreement unless:

- (a) there is no other respondent to the access application;
- (b) no other respondent to the proposal has demonstrated that their rights under an existing access agreement or award would be materially affected by implementation of the proposal; or
- (c) any access dispute in relation to the access application is resolved by conciliation or by arbitration in accordance with Chapter 4.

18 Dealing with network capacity limits

- (1) If the network provider has received 2 or more access applications, and believes that there is insufficient spare network capacity to provide the network access services that are the subject of those access applications, the network provider may assign available capacity to the first applicant prepared to enter into an access agreement.
- (2) For the purpose of assessing the extent of spare network capacity, the capacity associated with contestable loads will attach to the associated end-use customer and not to the network user and, as a result, a network user will not have a fixed entitlement to network capacity (with the user's entitlement fluctuating depending on the capacity needed to service loads being supplied or to be supplied by the user).

19 Access agreement

- (1) The network provider is taken to have granted a person access if the network provider and the person enter into an access agreement.
- (2) The types of terms and conditions that may be included in an access agreement are set out in Schedule 4.
- (3) The provision of network access services by the network provider under an access agreement is subject to the following conditions precedent:
 - (a) the access applicant satisfies the network provider that the applicant has put in place all arrangements required by Chapter 3;

- (b) the network provider or the access applicant gains environmental and planning approvals for any necessary augmentation to the network; and
- (c) a financial guarantee is provided – if required by the network provider.

20 Confidentiality

- (1) Information obtained by the network provider or a respondent to an access application as the result of an access application that could affect the competitive position of an access applicant or a respondent, or is commercially valuable or sensitive for some other reason, is to be regarded as confidential information.
- (2) A person who obtains confidential information must not disclose the information, other than to the regulator, unless:
 - (a) the disclosure is reasonably required for the purposes of this Code;
 - (b) the disclosure is made with the consent of the person who supplied the information; or
 - (c) the disclosure is required or allowed by law, or by a court or tribunal constituted by law.
- (3) A person who obtains confidential information as the result of an access application must not use the information for the purposes of securing an advantage for himself or herself or for some other person in competition to the person who provided the information.

21 Prohibition on hindering access to electricity network service

A person must not engage in conduct for the purpose of preventing or hindering the provision of an electricity network access service to any person who has a right to those services.

22 Costs of processing access applications

An applicant must, when requested by the network provider, reimburse the network provider for all reasonable expenses incurred by it in processing the access application, preparing an initial response, carrying out a preliminary assessment, making an offer and negotiating an access agreement.

23 Access application flow chart

The processes set out in this Chapter for applying for and negotiating access are shown in simplified form in the flow chart in Schedule 5.

Chapter 3 Access terms**24 General**

- (1) The broad technical terms and conditions on which access to the electricity network is to be made available to network users are set out in this Chapter.
- (2) The technical terms and conditions on which access to an electricity network is to be made available as set out in this Chapter can be supplemented in an access agreement.
- (3) A reference in this Chapter to an access agreement includes an award made by an arbitrator under this Code.

25 Contract maximum demand and declared sent-out capacity

- (1) A load user must use reasonable endeavours to ensure that the user's actual demand at a connection point does not exceed the contract maximum demand for that connection.
- (2) A generator user must use reasonable endeavours to ensure that the quantity of electricity transferred to the electricity network by or on behalf of the user at the connection point does not exceed the declared sent-out capacity from the user in respect of that connection.
- (3) If either of the conditions in subclause (1) or (2) is exceeded by the network user during any energy usage period, the network provider may impose charges relating to the excess involved.
- (4) The setting of excess charges is regulated under clause 76.

26 Network user's responsibility to keep energy usage in balance

- (1) A network user must use reasonable endeavours to ensure that its use of the network is in balance in that, after allowing for the network energy losses expected between the entry and exit points, the quantity of electrical energy transferred into the electricity network for the connection points in respect of each of its access agreements for each energy usage period is equal to the quantity of electrical energy transferred out of the electricity network for those connections for that period.

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- (2) Network users are responsible for arranging the supply and transportation of standby power to satisfy this obligation by contracting the supply of standby power with a generator.
 - (3) Network users must keep the power system controller informed of arrangements the network user has made to provide standby power and must promptly provide to the power system controller any information concerning those arrangements that the power system controller reasonably requests.
 - (4) When a network user becomes aware that an existing standby arrangement will terminate (other than by expiration of the terms of the existing arrangement) or will change in a material particular, the network user must promptly notify the power system controller and provide details of substitute arrangements to provide standby power to be put in place by the user.

27 Role of power system controller when energy usage is out of balance

- (1) If a network user's energy usage is shown to have been out of balance, the power system controller may impose charges on the generator user relating to that imbalance in order to reimburse the generators responsible for supplying the balancing amount of electricity.
- (2) The setting of those charges when the out-of-balance energy is supplied by PAWA Generation is regulated under Chapter 9 of this Code.
- (3) If the power system controller becomes aware that a network user is out of balance by an amount that, in the power system controller's view, is likely to result in the operation of the power system being materially affected or other users being materially affected, the power system controller may interrupt or curtail the transfer of electricity to and from one or more connection points in respect of the associated access agreement in order to reduce that material adverse effect.

28 Electricity generation and load forecast information

- (1) The network user must provide the network provider and the power system controller with information reasonably requested relating to the user's forecast electricity generation or load.
- (2) The network user must use reasonable endeavours to provide accurate and complete information under subclause (1).

29 Demand metering equipment

- (1) If time-of-use demand metering equipment with remote monitoring facilities is required by the network provider at a connection point the subject of an access agreement, the equipment must be installed at the connection point prior to commencement of the access agreement.
- (2) When the network provider is installing the metering equipment, the network user must cooperate with the network provider to enable it to do so.
- (3) If the network provider installs metering equipment, the network user in respect of the connection point must reimburse the network provider's reasonable costs and expenses in doing so.

30 Compliance with technical code and network planning criteria

- (1) A network user must comply with good electricity industry practice in operating, maintaining, constructing and commissioning plant or equipment connected to the electricity network or in transferring electricity to or taking electricity from the electricity network.
- (2) A network user must comply with the technical code issued by the network provider regarding connection to and use of the electricity network.
- (3) The network provider may grant derogations from the technical code and network planning criteria where in the network provider's view it is reasonable to do so.

31 Capital contributions and charges

- (1) If the granting of an access application would necessitate the augmentation of connection equipment or network system assets, the network provider may include in the access offer a condition that the access applicant makes a capital contribution in respect of the capital investment associated with the designing, constructing, installing and commissioning of the connection equipment or network system assets.
- (2) Capital contributions are to be established in accordance with principles laid down in Chapter 8 of this Code.

32 Interruption and curtailment powers

- (1) The network provider may interrupt or curtail the transfer of electricity to or from a connection point or the provision of an access service in respect of a connection point to the extent and for any period of time that the network provider considers is necessary:
 - (a) to carry out planned augmentation, maintenance, testing or repair of the network;
 - (b) to carry out unplanned maintenance, testing or repair of the network where the network provider considers it necessary to do so to avoid injury to any person or material damage to any property or the environment;
 - (c) in the event of breakdown of or damage to the network that affects the network provider's ability to transfer electricity to that connection point; or
 - (d) if a force majeure event occurs affecting the network.
- (2) The network provider:
 - (a) must give at least 14 days notice before any planned interruption or curtailment of the transfer of electricity; and
 - (b) must use reasonable endeavours to promptly notify a user of any unplanned interruptions to or curtailment of the transfer of electricity.

33 Safety and system security

If the network provider or power system controller believes that an emergency event or condition is causing, or likely to cause, injury to a person or damage to property, the network provider or power system controller may direct a user to interrupt or curtail the transfer of electricity in the most appropriate manner in the circumstances.

34 Default

- (1) A network user defaults if the network user fails to observe or perform any of its obligations under an access agreement.
- (2) If a network user, whether a generator user or a load user, defaults, the network provider may:
 - (a) notify the user of the default and require the user to remedy the default;

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- (b) if the default has not been remedied within 7 days after the notice was given – disconnect the user's connection point or points while that default continues; and
 - (c) if the default has not been remedied within 30 days after the notice was given – treat the default as a repudiation of the access agreement and terminate the access agreement.

Chapter 4 Access disputes

35 Access disputes

An access dispute exists if:

- (a) a respondent to an access application, within 21 days after the initial response date or any other time that may be prescribed, refuses or fails to enter into good faith negotiations with the access applicant;
- (b) the access applicant, after making reasonable attempts to reach agreement with the respondents, fails to obtain an agreement on the access application or an agreed modification of the proposal within 90 days of submitting the access application or the alternative period of time specified by the network provider in the initial response as reasonable for making the access offer; or
- (c) the respondents to the access application agree that there is no reasonable prospect of reaching agreement.

36 Request for reference of dispute to arbitration

- (1) An access applicant may, by written notice given to the regulator, request the regulator to refer an access dispute to arbitration.
- (2) A copy of the notice must be given to all respondents to the access application.

37 Purpose of arbitration

- (1) The general purpose of arbitration is to address those matters that are the prerogative of the network provider and network users under this Code and in the first instance are either matters for negotiation between the network provider and network users or matters that are the responsibility of the network provider to apply or administer.
- (2) Except as provided by this Code, matters that are determined or approved by the regulator under this Code are not subject to arbitration.

38 Conciliation and reference to arbitration

- (1) On receiving a request to refer an access dispute to arbitration, the regulator must:
 - (a) if the parties to the dispute agree – attempt to settle the dispute by conciliation; or
 - (b) if the parties do not agree to settle the dispute by conciliation or they agree but fail to settle the dispute – appoint an arbitrator (or arbitrators) and refer the dispute to the arbitrator (or arbitrators).
- (2) The regulator is not obliged to attempt to settle the dispute by conciliation or refer the dispute to arbitration if, in the regulator's opinion:
 - (a) the dispute is trivial, misconceived or lacking in substance;
 - (b) the access applicant has not provided information reasonably requested by the network provider;
 - (c) the access applicant has not negotiated in good faith or has resorted to arbitration prematurely or unreasonably; or
 - (d) the regulator is satisfied, on the application of a party to the dispute, that there are good reasons why the dispute should not be referred to arbitration.
- (3) A dispute cannot be referred to arbitration if, before the appointment of the arbitrator, the access applicant notifies the regulator that the access applicant does not wish to proceed with the arbitration.

39 Qualifications of the arbitrator

- (1) The regulator must keep a list of persons who are suitably qualified to be appointed as arbitrators but may appoint as an arbitrator a person who is not included in the list if the occasion requires.
- (2) An arbitrator must be a person who:
 - (a) is independent of the parties to the dispute;
 - (b) is not subject to the control or direction of the Government in any capacity;
 - (c) is properly qualified to act in the resolution of the dispute; and
 - (d) has no direct or indirect interest in the outcome of the dispute.

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- (3) Before appointing an arbitrator, the regulator must consult with each of the parties to the dispute and must attempt (but is not bound) to make an appointment that is acceptable to all parties.

40 Parties to arbitration

- (1) The parties to the arbitration of an access dispute are:
- (a) the access applicant;
 - (b) the network provider;
 - (c) any other respondent to the access application; and
 - (d) any other person who applies in writing to be made a party and is accepted by the arbitrator as having a sufficient interest.
- (2) The regulator may participate in an arbitration under this Chapter.
- (3) The participation of the regulator may include providing or calling evidence, making representations on questions arising during the arbitration and assisting the parties or the arbitrator with any matter (as may be appropriate).

41 Arbitrated prices for access services

- (1) The arbitrator must set the prices payable by the access applicant under an arbitrated award by reference to the schedule of reference tariffs published annually by the network provider and approved by the regulator in accordance with Part 3.
- (2) If the arbitrator decides the dispute relates (wholly or partly) to the tariff that should apply to a standard network access service, the arbitrator must make a decision requiring the network provider to provide the access applicant with the service that the access applicant seeks at the reference tariff.
- (3) If the arbitrator decides the dispute relates (wholly or partly) to the tariff that should apply to a service (other than a standard network access service), the arbitrator must require the network provider to provide the access applicant with the service that the access applicant seeks at a tariff that is to be approved by the regulator for this purpose.
- (4) The tariff in subclause (3) is to be based on the same principles used by the regulator to approve reference tariffs.

42 Arbitrated award affecting expansion or extension of network

- (1) The arbitrator may make an award that would have the effect of requiring the network provider to expand or extend the electricity network.
- (2) In making the award the arbitrator must be satisfied that:
 - (a) the expansion or extension is technically feasible and consistent with safe and reliable operation of the electricity network;
 - (b) the network provider's legitimate business interests in the electricity network are protected; and
 - (c) the terms and conditions on which access to the expansion or extension is to be permitted are reasonable taking into account the costs to be borne by the parties and the economic benefits to the parties resulting from the expansion or extension.
- (3) In determining the economic feasibility of the expansion or extension of the electricity network, the arbitrator must base the assessment of costs and benefits required in subclause (2)(c) in all relevant respects on use of the parameter values determined by the regulator for the purpose of establishing the annual revenue cap applying to the network provider in accordance with the principles set out in Part 3.

43 Hearing to be in private

- (1) Subject to subclause (2), an arbitration hearing is to be in private.
- (2) If the parties agree, an arbitration hearing or part of an arbitration hearing may be conducted in public.
- (3) The arbitrator in a hearing that is conducted in private may give written directions as to the persons who may be present.
- (4) In giving directions under subclause (3), the arbitrator must have regard to the wishes of the parties and the need for commercial confidentiality.

44 Right to representation

In an arbitration hearing, a party may appear in person or be represented by someone else.

45 Procedure of arbitrator

- (1) In an arbitration hearing, the arbitrator:
 - (a) is not bound by technicalities, legal forms or rules of evidence;
 - (b) must act as speedily as a proper consideration of the access dispute allows, having regard to the need to carefully and quickly inquire into and investigate the dispute and all matters affecting the merits, and fair settlement, of the dispute; and
 - (c) may inform himself or herself of any matter relevant to the access dispute in any way the arbitrator thinks appropriate.
- (2) The arbitrator may determine the periods that are reasonably necessary for the fair and adequate presentation of the respective cases of the parties and may require that the cases be presented within those periods.
- (3) The arbitrator may require evidence or argument to be presented in writing and may decide the matters on which the arbitrator will hear oral evidence or argument.
- (4) The arbitrator may determine that an arbitration hearing is to be conducted by:
 - (a) telephone;
 - (b) closed circuit television; or
 - (c) any other means of communication.

46 Particular powers of arbitrator

- (1) The arbitrator may do any of the following things for the purpose of arbitrating an access dispute:
 - (a) give a direction in the course of, or for the purposes of, an arbitration hearing;
 - (b) hear and determine the arbitration in the absence of a person who has been summoned or served with a notice to appear;
 - (c) sit at any place;
 - (d) adjourn to any time and place;
 - (e) refer any matter to an expert and accept the expert's report as evidence;

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- (f) generally give directions and do things that are necessary or expedient for the speedy hearing and determination of the access dispute.
 - (2) A person must not do an act or thing in relation to the arbitration of an access dispute that would be a contempt of court if the arbitrator were a court of record.
 - (3) Subclause (1) has effect subject to any other provision of this Code or as prescribed.
 - (4) The arbitrator may give an oral or written order to a person not to divulge or communicate to anyone else specified information that was given to the person in the course of an arbitration, unless the person has the arbitrator's permission.

47 Power to take evidence on oath or affirmation

- (1) The arbitrator may take evidence on oath or affirmation and for that purpose may administer an oath or affirmation.
- (2) The arbitrator may summon a person to appear before the arbitrator to give evidence and to produce documents (if any) referred to in the summons.
- (3) The powers in this clause may be exercised only for the purposes of an arbitration.

48 Failing to attend as witness

A person who is served, as prescribed, with a summons to appear as a witness before an arbitrator must not, without reasonable excuse, fail to:

- (a) attend as required by the summons; or
- (b) appear and report himself or herself from day to day unless excused or released from further attendance by the arbitrator.

49 Failing to answer questions etc

- (1) A person appearing as a witness before the arbitrator must not, without reasonable excuse, refuse or fail:
 - (a) to be sworn or to make an affirmation;
 - (b) to answer a question that the person is required to answer by the arbitrator; or

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- (c) to produce a document that the person was required to produce by a summons served on the person as prescribed.
 - (2) It is a reasonable excuse for the purposes of subclause (1) for a person to refuse or fail to answer a question or produce a document on the ground that the answer or the production of the document might tend to incriminate the person or to expose the person to a penalty.
 - (3) Subclause (2) does not limit what is a reasonable excuse for the purposes of subclause (1).

50 Intimidation etc.

A person must not:

- (a) threaten, intimidate or coerce another person; or
- (b) cause or procure damage, loss or disadvantage to another person,

because the other person:

- (c) proposes to produce, or has produced, documents to an arbitrator; or
- (d) proposes to appear or has appeared as a witness before an arbitrator.

51 Party may request arbitrator to treat material as confidential

- (1) A party to an arbitration hearing may:
 - (a) inform the arbitrator that, in the party's opinion, a specified part of a document contains confidential commercial information; and
 - (b) request the arbitrator not to give a copy of that part to another party.
- (2) On receiving the request, the arbitrator must:
 - (a) inform the other party or parties that the request has been made and of the general nature of the matters to which the relevant part of the document relates; and
 - (b) ask the other party or parties whether there is any objection to the arbitrator complying with the request.

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- (3) If there is an objection to the arbitrator complying with a request, the party objecting may inform the arbitrator of its objection and of the reasons for it.
 - (4) After considering:
 - (a) a request;
 - (b) any objection; and
 - (c) any further submissions that a party has made in relation to the request,

the arbitrator may decide not to give to the other party or parties a copy of so much of the document as contains confidential commercial information that the arbitrator thinks should not be given.

52 Award by arbitrator

- (1) Unless the arbitrator terminates the arbitration under clause 55, the arbitrator must make a written award on access to the electricity network by the access applicant.
- (2) The award may deal with any matter relating to access services by the access applicant, including matters that were not the basis for notification of the dispute.
- (3) Without limiting subclause (2) the award may:
 - (a) require the network provider to provide access to the services requested by the access applicant;
 - (b) require the access applicant to accept, and pay for, access to the service;
 - (c) specify the terms and conditions of the access applicant's access to the service;
 - (d) require the network provider to expand or extend the electricity network; or
 - (e) specify the extent to which the award overrides an earlier award or access contract.
- (4) Before making an award, the arbitrator must give a draft award to the parties to the arbitration and the regulator and may take into account representations that any of them may make on the proposed award.

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- (5) When the arbitrator makes an award, the arbitrator must give the parties to the arbitration and the regulator written reasons for making the award.
 - (6) An award made by the arbitrator takes effect as a contract between the network user and the network provider.

53 Restrictions on access awards

- (1) The arbitrator cannot make an award that:
 - (a) grants access to the electricity network if the right of access cannot be satisfied because of a right of access already granted to, and used by, a network user;
 - (b) prejudices the rights of a network user under an existing access agreement or award unless that user agrees or the arbitrator is satisfied that the user is or will be compensated on just terms for any loss suffered as a result;
 - (c) varies a determination made by the regulator under this Code;
or
 - (d) varies the prices that network users must pay for standard network access services from those set out in published pricing schedules approved by the regulator in accordance with Part 3 (except as provided for by clause 41).

54 Matters arbitrator must take into account

Except as provided in clauses 47, 48 and 53, the arbitrator must take the following matters (or any other matters not inconsistent with the following matters that he or she thinks are relevant) into account in making an award:

- (a) the legitimate business interests of the network provider, and the network provider's investment in the electricity network generally;
- (b) the cost to the network provider of providing access, including any costs of extending the electricity network, but not costs associated with losses arising from increased competition in upstream or downstream markets;
- (c) the public interest, including in having competitive markets;
- (d) the interests of all network users and other persons who have rights to use the electricity network;

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- (e) firm and binding contractual obligations of the network provider or of network users already using the electricity network;
 - (f) the economic value to the network provider of extensions to the electricity network, the cost of which is borne by someone else, and any additional investment that the access applicant or network provider has agreed to undertake;
 - (g) the operational and technical requirements necessary for the safe and reliable operation of the electricity network; and
 - (h) the economically efficient operation of the electricity network.

55 Arbitrator may terminate arbitration in certain cases

- (1) The arbitrator may at any time terminate arbitration (without making an award) with the consent of the parties to the arbitration or if the arbitrator thinks:
 - (a) the dispute is trivial, misconceived or lacking in substance;
 - (b) the person seeking arbitration of the dispute has not negotiated in good faith or is acting unreasonably; or
 - (c) on the application of a party to the dispute – that there are good reasons why the arbitration should be terminated.
- (2) If the arbitrator terminates an arbitration without making an award and without the consent of all the parties, the arbitrator must give the parties to the arbitration and the regulator the arbitrator's reasons for terminating the arbitration.

56 Effect of awards

- (1) Subject to this clause, an award is binding on the parties to the arbitration in which it is made.
- (2) An award has effect 21 days after it is made unless the access applicant, before that time, elects not to be bound by it.
- (3) An access applicant may, within 7 days after an award is made, elect not to be bound by the award by giving written notice of the election to the regulator.
- (4) If the access applicant elects not to be bound by an award:
 - (a) the award is rescinded; and

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- (b) the access applicant is precluded from making another access application in relation to the connections involved in the award for 2 years from the date the notice of election was given (unless the network provider agrees or the regulator authorises a further access application within that period).

57 Variation or revocation of awards

- (1) The regulator may vary or revoke an award if all parties to the award agree.
- (2) If the parties are unable to agree on a proposed variation of an award, the regulator may, on application of one or more of the parties and if in the regulator's opinion there are prima facie grounds for varying the award, refer the dispute to arbitration.

58 Costs of arbitration

- (1) The costs of an arbitrator are to be borne by the parties in proportions decided by the arbitrator.
- (2) However, if the access applicant terminates an arbitration or elects not to be bound by an award, the access applicant must bear the costs in their entirety.

59 Removal and replacement of arbitrator

- (1) The regulator may remove an arbitrator if the arbitrator:
 - (a) becomes mentally or physically incapable of carrying out the arbitrator's duties satisfactorily;
 - (b) is convicted of a crime;
 - (c) becomes bankrupt or applies to take the benefit of a law for the benefit of bankrupt or insolvent debtors; or
 - (d) has a direct or indirect interest in the outcome of the dispute or matter under arbitration.
- (2) If an arbitrator resigns, is removed from office or dies, the regulator may appoint another person to take the place of the arbitrator.

Part 3 Access pricing

60 Purpose of Part

- (1) This Part sets out the principles to be followed by the regulator and by providers of access services when setting regulated prices to be paid by network users for the conveyance of electricity through an electricity network covered by this Code.
- (2) This Part covers both the pricing of network access services provided by the network provider and the pricing of out-of-balance energy provided by PAWA Generation.

Chapter 5 Pricing principles

61 Pricing schedules

- (1) At least 30 days before the commencement of each financial year, pricing schedules must be published for the financial year by each service provider.
- (2) For the purpose of this Part of the Code, and unless a contrary meaning is suggested:
 - (a) a reference to a financial year shall be taken to be a reference also to the initial year, being the period between the date of commencement of access to a network as prescribed by the Regulatory Minister and the following 30 June; and
 - (b) a reference to a network shall be taken to be a reference to a geographically distinct network, which may be one of a number of geographically separated networks operated by the same network provider.
- (3) Except as provided in this Code, the tariffs contained in the network provider's pricing schedule with respect to standard network access services are to be the maximum tariffs applying to those services.
- (4) The prices and charges in respect of excess network usage or out-of-balance energy that are set out in the relevant pricing schedules are the exact prices and charges that network users must pay for the associated access services.

62 Role of regulator

Before pricing schedules are published, the regulator must:

- (a) with respect to tariffs and charges to be set by the network provider for the supply of included network access services – determine the cap or limit on the network provider's total revenue to be raised from the supply of those services in a network;
- (b) oversee the application by the network provider of principles for setting reference tariffs to apply to standard network access services and for setting certain excess network usage charges;
- (c) oversee the application by the network provider of principles for setting of capital contributions and charges; and
- (d) oversee the application by PAWA Generation of principles for setting of prices for the supply of out-of-balance power.

63 Objectives of price regulation

Price regulation under this Part must be administered to achieve the following outcomes:

- (a) an efficient and cost-effective regulatory environment;
- (b) prevention of monopoly rent extraction by the network provider;
- (c) promotion of competition in upstream and downstream markets and promotion of competition in the provision of network services where economically feasible;
- (d) regulatory accountability through transparency and public disclosure of regulatory processes and the basis of regulatory decisions;
- (e) reasonable certainty and consistency over time of the outcomes of regulatory processes; and
- (f) an acceptable balancing of the interests of the network provider, network users and the public interest.

64 Information disclosure by regulator

In making a determination under this Part, the regulator must publish full and reasonable details of the basis of and rationale for the decision including but not limited to the following:

- (a) reasonable details of qualitative and quantitative methodologies applied including any calculations and formulae; and
- (b) options considered and all discretions exercised that have a material bearing on the outcome of the regulator's decision.

65 Information disclosure to regulator by service providers

- (1) Before the network provider or PAWA Generation publishes the annual pricing schedules required under this Part, it must within a reasonable time before doing so (or a period set by this Code or by the regulator) provide the regulator with:
 - (a) information relating to the proposed prices that is required under the arrangements set out in Chapters 7 and 9; and
 - (b) any other information that the regulator reasonably requires for the purpose of performing his or her functions.
- (2) Information required under subclause (1) may be in the form of forecasts and estimates.
- (3) If information is provided in the form of forecasts and estimates, the forecasts and estimates must be reasonable in light of all the surrounding circumstances and past performance and may not be amended without prior notification to the regulator.
- (4) The regulator may by written notice require that information provided in the form of forecasts and estimates be reviewed.
- (5) The notice must specify the reason why the regulator believes the information is required to be reviewed.
- (6) The network provider or PAWA Generation to whom the notice is given must review the forecasts and estimates and, within 7 days after receiving the notice, notify the regulator whether the forecasts or estimates have been amended or confirmed and justifying the amendments or confirming the forecasts or estimates in detail.
- (7) The regulator may only give a notice under subclause (4) within 30 days of receiving the forecasts and estimates under subclause (1).

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- (8) Information required under subclause (1) may be in the form of certified annual financial statements.
 - (9) If information is provided in the form of certified annual financial statements, the financial statements must provide a true and fair statement of the financial and operating performance for the reporting period and be in a form and be provided by the date determined by the regulator.
 - (10) Certified annual financial statements submitted under subclause (1) may be used by the regulator:
 - (a) to monitor the compliance of the network provider with the revenue cap;
 - (b) to assess the allocation of costs between services that are subject to regulation under the revenue cap and services or activities that are not and to identify any cross-subsidy between these different types of services or activities; and
 - (c) to collate data regarding the financial, economic and operational performance of the network provider and to be used as input to the regulator's decision making regarding the setting of revenue caps.

Chapter 6 Network revenue caps

66 Role of regulator

- (1) The regulator is responsible for determining the revenue cap to apply to the network provider with regard to a network covered by this Code at the time.
- (2) Revenue caps are to be determined by the regulator for each financial year during the regulatory control period in accordance with the principles set out in this Chapter.

67 Included network access services

- (1) A revenue cap applies only to those revenues raised each year from application of tariffs and charges for included network access services.
- (2) Except as provided for in clause 72, included network access services relate to:
 - (a) the transportation and delivery of electricity;

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- (b) the carrying out of works or the provision of maintenance or repairs for the purpose of carrying out transportation of electricity; and
 - (c) the provision, installation and maintenance of any meter, switchgear or other electrical plant.

68 Revenue cap principles

In setting a revenue cap, the regulator must take into account the revenue requirements of the network provider during the relevant financial year or years having regard to:

- (a) the demand growth that the network provider is expected to service using any appropriate measure including but not limited to:
 - (i) energy consumption by category of network users or other relevant groups of persons who consume energy;
 - (ii) demand by category of network users or other relevant groups of persons who consume energy;
 - (iii) numbers of network users or other relevant groups of persons who consume energy by category of network users; and
 - (iv) length of the electricity network;
- (b) the service standards applicable to the network provider under this Code and any other standards imposed on the network provider by any regulatory regime administered by the regulator and by agreement with the relevant network users;
- (c) the potential for efficiency gains to be realised by the network provider in expected operating, maintenance and capital costs, taking into account the expected demand growth and service standards referred to in paragraphs (a) and (b);
- (d) the network provider's cost of capital applicable to the relevant network access service, having regard to the risk-adjusted rate of return required by investors in commercial enterprises facing similar business risks to those faced by the network provider in the provision of that service;
- (e) the provision of a fair and reasonable return on efficient capital investment undertaken by the network provider in order to maintain or extend network capacity;

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- (f) the right of the network provider to recover reasonable costs incurred by the network provider in connection with the operation and maintenance of the network, including those arising from but not limited to:
 - (i) any Territory and Commonwealth taxes or equivalent taxes paid in connection with the operation of its business as a provider of network access services; and
 - (ii) the tariffs and charges paid to other network providers irrespective of whether these tariffs and charges are regulated under this Code;
 - (g) any increase in the rate of a tax or any new tax, whether it is a tax or tax equivalent imposed by the Territory, a State or the Commonwealth that directly increases the cost of providing the access services that are directly attributable to the increase in the rate or to the new tax;
 - (h) any reduction or increase in network energy losses; and
 - (j) the on-going commercial viability of the network provider.

69 Revenue caps to apply in first full financial year of regulatory control period

- (1) The revenue cap to apply to the network provider during the first full year of a regulatory control period (and the revenue cap to apply during any preceding part year) is to be calculated using the methodology set out in Schedule 6.
- (2) The revenue cap set by the regulator is to provide a fair and reasonable risk-adjusted rate of return to the network provider on efficient investment given efficient operating and maintenance practices on the part of the network provider where:
 - (a) the asset base is to be identified and valued in accordance with Schedule 7; and
 - (b) allowed rates of return are to be established by the regulator in accordance with Schedule 8, and are to be consistent with the method of valuation of new assets and revaluation, if any, of existing assets and consistent with achievement of a commercial return on efficient investment.
- (3) The values of the key parameters required for the purpose of applying the methodologies in Schedules 7 and 9 are to be determined by the regulator at least 90 days before the commencement of the first full financial year in each regulatory control period.

70 Revenue cap adjustment between years

- (1) For the second full financial year and for each following year in a regulatory control period, the revenue cap to apply to the network provider is to be derived by the methodology in Schedule 9.
- (2) The methodology to be used by the regulator to determine the revenue cap is to involve increasing the previous year's revenue cap in line with both:
 - (a) the factors which the regulator considers to be the main real-terms drivers affecting the network provider's costs (such as the growth in the quantity of electricity transported annually over the electricity network); and
 - (b) inflation (as measured by the rate of change in the consumer price index),and decreasing it by an efficiency gains factor (**X factor**).
- (3) The use of an efficiency gains factor is to ensure that the benefits of efficiency gains are shared between end-use customers (those gains achieved up to the X factor level) and the network provider (any gains achieved in excess of the X factor).
- (4) The efficiency gains factor (X factor) and any other factors required for the purposes of applying the methodology in Schedule 9 are to be determined by the regulator at least 90 days before commencement of the first financial year in which the factor will apply.
- (5) The efficiency gains factor is to be established and applied by the regulator in accordance with the principles in Schedule 10.

71 Revoking or resetting revenue cap

The regulator may only revoke or reset a revenue cap with respect to a particular financial year or years if it appears to the regulator that:

- (a) the revenue cap was set on the basis of false or materially misleading information provided to the regulator;
- (b) there was a material error in the setting of the revenue cap; or
- (c) there were extraordinary developments with respect to any one of the key factors identified in clause 68 which, in the opinion of the regulator, were outside the network provider's control.

72 Exclusions from revenue cap

- (1) The excluded network access services or charges for the purposes of this Chapter are to be determined by the regulator (when the regulator determines the network revenue caps) and may include but are not restricted to:
- (a) excess network usage charges;
 - (b) new connections to the network provider's network system;
 - (c) services (including metering, electric lines or electric plant) for the specific benefit of any third party (and requested by the third party) and not made available by the network provider as a normal part of standard services to all customers including:
 - (i) charges for moving mains, services or meters forming part of the network provider's network system to accommodate extension, re-design or re-development of any premises; and
 - (ii) the provision of electric plant for the specific purpose of enabling the provision of standby supplies or sales of electricity;
 - (d) the relocation of electric lines or plant and the carrying out of associated works pursuant to any statutory obligation imposed on the network provider;
 - (e) charges for specific services for identified customers;
 - (f) capital contributions and other capital charges or financial contributions received from network users to meet the capital cost of new works and augmentations;
 - (g) charges for the provision of connection equipment to a standard in excess of a standard associated with the "least overall cost, technically acceptable" assets;
 - (h) charges for the provision of metering to a standard in excess of that required for the billing of network tariffs.
- (2) The prices charged by the network provider for excluded network access services are to be set by the network provider on a fair and reasonable basis.

Chapter 7 Network tariffs

73 General

- (1) This Chapter regulates the reference tariffs to be published annually by the network provider which are to be the maximum tariffs to apply with respect to standard network access services.
- (2) Reference tariffs are:
 - (a) the maximum tariff that the network provider can charge for a standard network access service;
 - (b) the reference point for use in establishing the maximum tariffs to apply to new or non-standard network access services; and
 - (c) the tariffs that an arbitrator must apply in making an award in the case of an access dispute relating (wholly or partly) to the tariff that should apply to a standard network access service.
- (2) The establishment of reference tariffs in accordance with the principles set out in this Chapter is primarily the responsibility of the network provider through a process overseen by the regulator.
- (3) Where the network access services required differ in some regard to the relevant standard network access services or where the circumstances associated with the provision of standard network access services may give rise to cost savings on the part of the network provider, the tariffs to apply in those circumstances are to be matters for commercial negotiation between the network user and the network provider.
- (4) The principles set out in this Chapter also provide the basis upon which the maximum tariffs to apply to new or non-standard network access services are to be approved by the regulator in the case of an access dispute where the dispute relates (wholly or partly) to the tariff to apply to those services.
- (5) This Chapter also regulates the basis upon which the network provider is to set any excess network usage charges.

74 Objectives of network pricing

The reference tariffs are:

- (a) in principle to be cost reflective, to facilitate contestability in the Territory electricity supply industry, to provide equitable user prices and to ensure that appropriate investment in the network takes place in the longer term;

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- (b) to involve a common approach for all network users, with the actual tariff with respect to a particular network access service only differing between users because of:
 - (i) the user's geographical and electrical location;
 - (ii) the quantities in which the relevant network access service is to be supplied or is supplied;
 - (iii) the pattern of network usage;
 - (iv) the technical characteristics or requirements of the user's load or generation;
 - (v) the nature of the plant or equipment required to provide the network access service; and
 - (vi) the periods for which the network access service is expected to be supplied;
 - (c) to be transparent and published in order to provide pricing signals to network users;
 - (d) to promote price stability; and
 - (e) to reflect a balancing of the quest for detail against the administrative costs of doing so which would be passed through to end-use customers.

75 Structure of regulated network prices

- (1) The network provider is to be responsible for determining the pricing structure that best gives effect to the principles in clause 74.
- (2) In determining the pricing structure, the network provider may distinguish tariffs and charges for the following categories of standard network access services:
 - (a) entry services that include the asset-related costs and services provided to serve a generator user at its connection point;
 - (b) exit services that include the asset-related costs and services provided to serve a load user at its connection point;
 - (c) common services that include the asset-related costs and services that ensure the integrity of the network and benefit all network users and cannot be allocated on the basis of voltage levels or location; and

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- (d) use of network services that include the network shared by generator users and load users, but exclude entry services, exit services and common services.
 - (3) Tariffs and charges may relate to specific connection points, and may involve a combination of fixed and variable amounts and may be related to one or more of the following elements:
 - (a) demand levels (maximum kW or kVA per period);
 - (b) energy quantities involved (kWh or kVAh per period); and
 - (c) time of use.
 - (4) If quantities are used in determining tariffs and charges, these quantities may refer to minimum, maximum or actual quantities.
 - (5) Prior to commencement of each regulatory control period or to the network provider's coverage by this Code, the network provider must provide the regulator with a draft statement setting out details of principles and methods to be used for defining the individual standard network access services to be supplied by the network provider and for determining the reference tariffs to apply to those services.
 - (6) The regulator must approve the statement for use by the network provider unless, in the opinion of the regulator, the statement is not consistent with the principles in clause 74.

76 Excess network usage charges

- (1) If network usage by a generation user exceeds the user's declared sent-out capacity or if network usage by a load user exceeds the user's contract maximum demand, the network provider may apply excess network usage charges.
- (2) Excess network usage charges are outside the revenue cap and are not subject to commercial negotiation.
- (3) Charges distinguishing between excess network usage at entry and exit points are to be established by the network provider by applying the methodology in Schedule 11.

77 Publication of network tariffs

- (1) At least 30 days before the start of each financial year, network providers covered by this Code at the time must publish a pricing schedule.

- (2) The pricing schedule must specify the reference tariffs to apply during the relevant period to standard network access services with regard to the network provider's network and, where appropriate, distinguish between:
 - (a) voltage level;
 - (b) load class; and/or
 - (c) pricing zone,to apply to load users and generator users.
- (3) The pricing schedule must also specify the excess network usage charges to apply in the financial year.
- (4) The pricing schedule need not include the charges the network provider expects to levy on those services excluded from price regulation under clause 54.

78 Role of regulator

- (1) At least 60 days prior to the start of each financial year, the network provider must provide to the regulator a statement setting out:
 - (a) its proposed reference tariffs for the standard network access services it will be supplying; and
 - (b) the proposed excess network usage charges,that will apply in the relevant period with respect to a network.
- (2) The statement must detail how the tariffs and charges have been calculated by application of the principles in this Chapter.
- (3) The regulator must approve the tariffs and charges, or individual tariffs and charges, unless in the opinion of the regulator the tariffs and charges would result in the network provider not complying with the principles laid down in this Division.
- (4) If the regulator has not notified the network provider within 30 days of receiving the statement under subclause (1) that the regulator disapproves of the tariffs and charges, the regulator is to be taken to have approved the tariffs and charges.
- (5) If the regulator notifies the network provider that the regulator has not approved a tariff or charge with respect to the initial year of operation of this Code, the tariff or charge will be set at a level determined by the regulator until the regulator approves a tariff or charge submitted by the network provider.

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- (6) If, in any of the financial years following the initial year, the regulator notifies the network provider that the regulator has not approved a proposed tariff or charge, the tariff or charge applying to that service in the immediately preceding year (or any other tariff or charge that the regulator determines) will apply until the regulator approves the tariff or charge.
 - (7) Before the regulator approves the reference tariffs and excess network usage charges, the pricing schedule to be published by the network provider must incorporate any modifications that the regulator directs.

Chapter 8 **Capital contributions**

79 **General**

- (1) For the purposes of this Code, **capital contributions** only cover contributions expected of network users with a formal access agreement with the network provider.
- (2) If the granting of an access application involves the provision of connection or system augmentation, the network provider may require the network user to make a capital contribution in respect of the capital investment associated with the designing, constructing, installing and commissioning of the connection or system equipment.
- (3) Capital contributions are to be distinguished from:
 - (a) financial contributions that the network provider might require any network user seeking a new or modified connection to pay for prudential purposes so as to minimise financial risks associated with investment in network assets; and
 - (b) any capital contributions that the Government requires of individual end-use customers under franchise arrangements, where the existing distribution system extension policy (DSEP) principles established under the *Electricity Reform Act* will continue to apply.
- (4) Prudential requirements referred to in subclause (3)(a) may include one or more of the following arrangements:
 - (a) financial contributions;
 - (b) non-cash asset contributions;
 - (c) service charge pre-payments;

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- (d) minimum service charges or quantities for an agreed period; and/or
 - (e) financial guarantees.
- (5) Prudential requirements referred to in subclause (3)(a) are not regulated by this Code and are a matter to be negotiated by the network provider and network users.

80 Capital contributions principles

- (1) The capital contributions and charges covered by this Chapter are to be established by the network provider in accordance with the principles in this Chapter.
- (2) If augmentation of the connection equipment or the network system assets is not commercially viable without a capital contribution from the user, the access applicant must make a capital contribution towards the augmentation.
- (3) For the purpose of subclause (1), an augmentation is commercially viable if:
 - (a) the network provider can be reasonably expected to recover within a reasonable time the costs, the capital investment and a reasonable rate of return on the capital investment of that augmentation and not increase the tariffs and charges payable by existing network users; and
 - (b) the network provider can be reasonably expected to obtain the necessary financial capital to fund that augmentation, from internal reserves or via new borrowings, on reasonable terms and conditions.
- (4) The amount of the capital contribution should be equal to the amount that would be required to make the augmentation commercially viable.
- (5) The capital contribution must be paid to the network provider in the manner and at the time set out in the access agreement.
- (6) The reasonable rate of return on the capital investment associated with the proposed augmentation required in subclause (3) are to be determined by the network provider taking into account:
 - (a) the network provider's cost of capital and its components, determined in a manner consistent with Schedule 8;
 - (b) the potential future use of the augmentation by existing and potential users; and

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- (c) the financial viability of the access applicant and the applicant's business at that location.
 - (7) The reasonable time within which the costs, the capital investment and a reasonable rate of return on the capital investment in respect of a proposed augmentation must be recovered as required in subclause (3) is to be determined by the network provider taking into account:
 - (a) the anticipated commercial life of the augmentation; and
 - (b) the purpose for which the applicant requires the network capacity the subject of the access application.
 - (8) The reasonable terms and conditions upon which funding is to be obtained to finance the proposed augmentation as required in subclause (3) are to be determined by the network provider taking into account:
 - (a) the anticipated effect of any increased borrowing upon the network provider's cost of borrowings; and
 - (b) the availability of debt funding for those purposes and the covenants that prospective lenders might require in support of any borrowings.

81 Role of regulator

- (1) The broad application by the network provider of the principles set out in this Chapter will be overseen by the regulator.
- (2) Prior to commencement of each regulatory control period or to the network provider's coverage by this Code, the network provider must provide to the regulator a draft statement providing details of principles and methods for determining capital contributions under this Chapter.
- (3) The regulator must approve the statement for use by the network provider unless, in the opinion of the regulator, the statement does not comply with the requirements in this Chapter or is inconsistent with requirements elsewhere in this Code.

Chapter 9 Out-of-balance energy prices

82 General

- (1) The generation services provided by PAWA Generation that are subject to price regulation under this Chapter are restricted to the supply of out-of-balance energy to the network user by PAWA Generation.

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- (2) Out-of-balance energy involves electrical energy dispatched by a generator into the power system at the request of the power system controller that has the effect of meeting any mismatch between the transfer of electrical energy into and out of the electricity network by the parties to an access agreement.
 - (3) The prices of any electrical energy supplied by PAWA Generation in accordance with the terms of an access agreement or a standby generation agreement are subject to commercial negotiation between the parties concerned and are not subject to regulation under this Code.
 - (4) All prices approved by the regulator under this Chapter are the exact prices that network users or PAWA Generation must pay for the out-of-balance energy supplied.

83 Structure of regulated out-of-balance energy prices

- (1) In accordance with clause 27, the power system controller has responsibility for determining the amount of out-of-balance energy supplied by a generator and for undertaking the settlement of the resultant charges between generators.
- (2) The power system controller must apply the methodology in Schedule 12 to establish the total charges to be paid by or to PAWA Generation.
- (3) This Chapter only regulates the prices to be used by the power system controller in determining the total charges as they apply to PAWA Generation.
- (4) PAWA Generation is to be responsible for establishing the prices to be used by the power system controller in administering arrangements under this clause.
- (5) To enable the power system controller to apply the methodology in Schedule 12, PAWA Generation must establish the following out-of-balance energy prices applicable in a network and for dispatch from nominated generation units distinguishing as appropriate between time of use:
 - (a) a within-tolerance sell price of energy;
 - (b) an outside-tolerance sell price of energy;
 - (c) a within-tolerance buy price of energy; and
 - (d) an outside-tolerance buy price of energy.

84 Permitted tolerance limit

- (1) Out-of-balance energy may be provided in amounts that are within or in excess of a permitted tolerance limit.
- (2) For the purpose of this Chapter, the permitted tolerance limit for a generator user other than PAWA Generation in respect of a group of connections associated with an access agreement is equal to:
 - (a) the greater of:
 - (i) an amount expressed in kilowatts (kW) averaged over an energy usage period equal to 1.5% of the aggregate of the contract maximum demand for all the exit points of load users associated with the access agreement; and
 - (ii) 2 kilowatt-hours (kWh) per minute of each energy usage period; or
 - (b) other any limits that are prescribed from time to time.

85 Pricing principles

- (1) The prices for any out-of-balance energy are to be determined by PAWA Generation so as to provide the price signals necessary to encourage network users to keep their energy usage in balance, in particular by:
 - (a) setting out-of-balance sell prices so that the situation does not arise where PAWA Generation could be called upon to sell energy at such a price that another party would benefit by opting to purchase out-of-balance energy from PAWA Generation instead of generating the required energy itself;
 - (b) setting out-of-balance buy prices so that the situation does not arise where PAWA Generation could be called upon to purchase energy at such a price that another party would benefit by opting to sell out-of-balance energy to PAWA Generation instead of refraining from generating excess energy itself; and
 - (c) setting prices for purchases (and sales) of energy outside the permitted tolerance limit relative to those for purchases (and sales) within the limit so that the situation does not arise where PAWA Generation could be called upon to buy (or sell) energy at such prices that another party would benefit by opting to sell (or buy) out-of-balance energy to (or from) PAWA Generation instead of taking all measures reasonably available to that party to prevent sales (or purchases) of energy outside the tolerance limit.

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- (2) The prices must take full account of network energy losses between the relevant entry and exit points on the network.

86 Publication of out-of-balance energy prices

At least 30 days before the start of each financial year, PAWA Generation must publish a pricing schedule setting out the various out-of-balance energy prices that are to apply during the financial year with respect to a network.

87 Role of regulator

- (1) The regulator must provide regulatory oversight of PAWA Generation's out-of-balance energy prices, to ensure that prices published in PAWA Generation's pricing schedule are consistent with the pricing objectives of this Code and the requirements of this Chapter.
- (2) At least 60 days before the start of each financial year, PAWA Generation must provide a statement to the regulator setting out its proposed out-of-balance energy prices for that financial year.
- (3) The statement must set out the key assumptions, forecasts and estimates upon which the calculations are based.
- (4) The regulator must approve the proposed prices unless, in the opinion of the regulator, the proposed prices would result in PAWA Generation not complying with the requirements in this Chapter or in Schedule 12.
- (5) If the regulator has not notified PAWA Generation within 30 days of receiving the statement that the regulator disapproves of the prices, the regulator is to be taken to have approved the prices.
- (6) If the regulator notifies PAWA Generation that the regulator has not approved the price for a particular out-of-balance energy price component with respect to the initial year of operation of this Code within the 30 day period, prices will be set at levels determined by the regulator until the regulator approves prices submitted by PAWA Generation.
- (7) If, in respect of any of the financial years following the initial year, the regulator notifies PAWA Generation that the regulator has not approved the price for a particular price component within the 30 day period, the price for the immediately preceding year (or any other price that the regulator determines) will apply until the regulator approves a price for that price component.

- (8) Before the regulator approves the price applying to an individual price component, the pricing schedule to be published by PAWA Generation must incorporate such modifications as the regulator directs.

Schedule 1 Operational and technical requirements for access

1 Technical Code

The Technical Code must contain:

- (a) performance standards in respect of service quality parameters in relation to the electricity network;
- (b) the technical requirements that apply to the design or operation of plant or equipment connected to the electricity network;
- (c) requirements relating to the operation of the electricity network (including the operation of the network in emergency situations);
- (d) obligations to test plant or equipment in order to demonstrate compliance with the Technical Code;
- (e) procedures that apply if the network provider believes that an item of plant or equipment does not comply with the requirements of the Technical Code;
- (f) requirements relating to the inspection of plant or equipment connected to the electricity network;
- (g) requirements that relate to control and protection settings for plant or equipment connected to the electricity network;
- (h) procedures that apply in the case of commissioning and testing of new plant or equipment connected to the electricity network;
- (i) procedures that apply to the disconnection of plant or equipment from the electricity network;
- (k) procedures relating to the operation of generating units connected to the electricity network (including the giving of dispatch instructions and compliance with those instructions);
- (m) metering requirements in relation to connections; and
- (n) the information required to be provided to the access provider in relation to the operation of plant or equipment connected to the electricity network at a connection and how and when that information is to be provided.

2 Network planning criteria

The network planning criteria must be consistent with the Technical Code and must contain the following:

- (a) contingency criteria;
- (b) steady-state criteria including:
 - (i) voltage limits;
 - (ii) thermal rating criteria; and
 - (iii) fault rating criteria;
- (c) stability criteria including:
 - (i) transient stability criteria; and
 - (ii) voltage stability criteria;
- (d) quality of supply criteria including:
 - (i) voltage fluctuation criteria;
 - (ii) harmonic voltage criteria;
 - (iii) harmonic current criteria;
 - (iv) voltage unbalance criteria; and
 - (v) electro-magnetic interference criteria;
- (e) construction standards criteria; and
- (f) environmental criteria.

Schedule 2 Information to be submitted in access application

An access application must contain the following information:

- (a) the name and address of the person making the access application and of any other persons for whom that person is acting in making the access application;
- (b) the type of network access services requested, when those access services are required and for how long they will be required;
- (c) the entry points, exit points and transfer points (as applicable) in respect of which access is being applied for and the capacity (expressed in kVA) for each of these entry points and exit points for which access is being applied for;
- (d) whether the access application is being made in connection with a tender process to supply a project and, if so, who the sponsor is in respect of the project;
- (e) the premises and type of plant in respect of which network access services are required and the configuration of that plant;
- (f) the geographical location of the premises;
- (g) the maximum generation capacity and the proposed declared sent out capacity of the plant connected or to be connected at each entry point;
- (h) the expected maximum demand of the user connected or to be connected at each exit point;
- (i) the expected electricity production and consumption of the premises connected or to be connected at each of the entry points and exit points;
- (j) when the applicant expects the plant to be connected at each of the entry points and exit points in respect of which access is being applied for;
- (k) the arrangements that the applicant proposes to enter into in relation to the construction and supply of the connection equipment in respect of the connection points involved;
- (l) the nature of any disturbing load;

- (p) any commercial information concerning the applicant that is required by the network provider to allow the network provider to make an assessment of the ability of the applicant to meet its obligations under any access agreement that results from the access application.

Schedule 3 Terms and conditions to be included in access offer

An access offer must include (as applicable) terms and conditions of the following kind:

- (a) details of each entry point and each exit point;
- (b) details of any transfer point;
- (c) the contract maximum demand and declared sent-out capacity in respect of each connection point;
- (d) if more than one person is selling or purchasing the electricity transferred at the connection point – the mechanism for determining how much of the electricity transferred at that connection point is sold or purchased by each of those persons;
- (e) a requirement that the user complies with the Technical Code;
- (f) any metering arrangements and, if appropriate, a methodology for adjusting losses where the point of metering is significantly different to the connection point;
- (g) the payment conditions;
- (h) the date on which payments in respect of the network access services are to commence (whether or not the applicant's plant is actually commissioned by that date);
- (j) the duration and termination conditions of the proposed access agreement;
- (k) terms and conditions in relation to the carrying out of works to establish a connection point;
- (m) testing and commissioning requirements;
- (n) agreed protocols for maintenance coordination;
- (p) the provision, installation, operation and maintenance of automatic load shedding facilities;
- (q) the circumstances under which the terms of the resulting access agreement would require renegotiation;

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- (r) the amount of any capital contributions required and the manner in which and the time at which the capital contribution must be paid to the network provider.

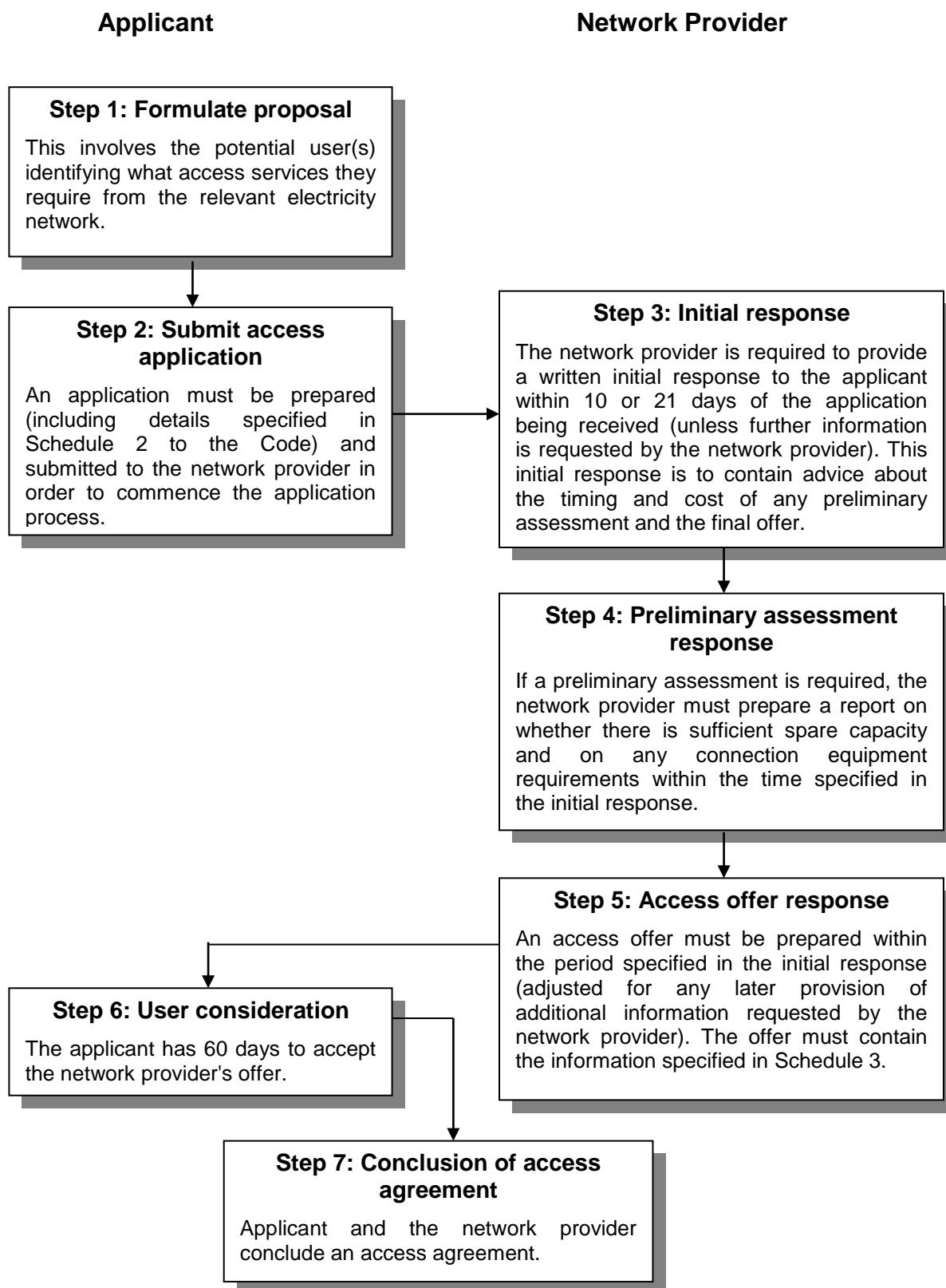
Schedule 4 Indicative terms and conditions of access agreements

- (1) Access applicants must enter into legally binding and enforceable access agreements with the network provider(s) that must require the parties to abide by and comply with the Code.
- (2) Access agreements must contain the specific conditions that have been agreed to for connection and access to the electricity network, including but not limited to:
 - (a) details of the connection point including network coupling points where appropriate;
 - (b) metering arrangements and adjustments for losses where the point of metering is significantly different to the connection point;
 - (c) authorised demand that may be taken or supplied at the connection point (under specified conditions);
 - (d) connection service charges;
 - (e) payment conditions;
 - (f) duration and termination conditions of the access agreement;
 - (g) terms, conditions and constraints that have been agreed to for connection to the network to protect the legitimate interest of the access providers including rights to disconnect the user for breach of commercial undertakings;
 - (h) details of any agreed standards of reliability of network service levels at the connection points or within the network;
 - (i) testing intervals for protection systems associated with the connection point;
 - (k) agreed protocols for maintenance co-ordination; and
 - (m) where an expected load to be connected to the network has a peak load requirement in excess of 10 MW – the provision, installation, operation and maintenance of automatic load shedding facilities for 60% of the load at any time.

(3) Access agreements may include:

- (a) other technical, commercial and legal conditions governing works required for the connection or extension to the network that the parties have negotiated and agreed to; and
- (b) circumstances under which the terms of access agreements would require renegotiation.

Schedule 5 Access application flow chart



Schedule 6 Determining network provider's annual revenue cap

1 Introduction

- (1) This Schedule outlines the broad methodology to be used by the regulator to determine the revenue cap to apply to the network provider with respect to the first full financial year (and the cap applying in any preceding part financial year) in each regulatory control period. The revenue cap in subsequent financial years within a regulatory control period is to be determined in accordance with Schedule 9.
- (2) Each revenue cap determined by the regulator is to apply only to those revenues raised each year from application of prices and charges for included network access services as defined by the Code.

2 Accrual building block approach

- (1) The methodology to be used to determine the revenue cap is termed the accrual building block approach.
- (2) The approach calculates an annual revenue cap, the maximum allowable revenue to be earned in a financial year by the network provider from prices and charges for included network access services, as the sum of:
 - (a) an allowable return on capital;
 - (b) an allowable return of capital; and
 - (c) an allowable return of non-capital costs.
- (3) The maximum allowable revenue for a year is defined as:
$$A + B + C$$
where:

A is the allowable return on capital;

B is the allowable return of capital; and

C is the allowable return of non-capital costs.
- (4) The elements of the accrual building block approach are detailed in this Schedule.

3 Allowable return on capital

- (1) The allowable return on capital is to be measured as a return on assets employed by the network provider were the network provider achieving an allowable rate of return, that is as:

$$A * B$$

where:

A is the written down (depreciated) value of the network provider's asset base; and;

B is the allowable rate of return on the asset base.

- (2) Application of the formula in subclause (1) requires measures of both the network provider's asset base and the allowable rate of return on those assets.

4 Asset base

- (1) The asset base is to include the fixed assets used to provide the included network access services and an allowance for working capital (such as cash or short term deposits) to meet the network provider's short term obligations.
- (2) For the purpose of calculating the allowable return on capital, assets funded by end-use customers or network users through capital contributions and the like after a date to be prescribed are to be excluded from the relevant asset base.
- (3) The fixed assets must embody the most efficient technology for providing the service and only include those assets related to the optimal configuration and capacity of the network.
- (4) Such an optimisation process is to ensure that network users do not have to pay for redundant or oversized assets that are not used to provide network services and should provide the network providers with the incentive to undertake optimum investment decisions.
- (5) The written down (depreciated) value of fixed assets is to be used to determine the allowable return on capital.
- (6) The use of a written down (depreciated) value is to ensure that there is no double counting, such as would result from giving a return on the undepreciated asset base as well as allowing a return of capital.

- (7) The network assets to be included and the method of valuation to be used are to be identified in accordance with the principles laid down in Schedule 7.

5 Allowable rate of return on the asset base

- (1) The allowable rate of return on capital is to be measured by the rate equal to the network provider's weighted average cost of capital (WACC).
- (2) The use of the WACC approach is consistent with the Competition Principles Agreement and promotes the efficient allocation of resources by ensuring government-owned network providers operate under the same financial conditions as network providers in the private sector and will ensure returns in the public sector are equal to the opportunity cost of capital in the private sector.
- (3) The WACC is to be determined by the regulator for the network provider in accordance with the methodology laid down in Schedule 8.

6 Allowable return of capital

- (1) Allowing a return of capital recognises the need to recoup the outlay involved in the purchase of network assets over their useful lives and is to be measured by the annual depreciation expense on the asset base.
- (2) The asset lives used for the purpose of calculating depreciation rates are to be consistent with good electricity industry practice.

7 Allowable return of non-capital costs

- (1) The final component of maximum allowable revenue is the return of non-capital costs involved in providing network services.
- (2) These costs include operating and maintenance (O&M) costs and administration and general (A&G) costs (together referred to as **operating expenditure** (opex)).
- (3) As one of the objectives of the regulation of network prices is to provide the network provider with incentives to utilise efficient operating and maintenance practices, the operating expenditure to be included in the calculation of a revenue cap is to be based on costs facing an efficient operation in Territory circumstances.
- (4) The allowable return of non-capital costs is to exclude costs that relate to the provision of excluded network services and unrelated business activities including, but not limited to, costs in respect of energy trading and generation.

Schedule 7 Identifying and measuring the network asset base

1 Distinguishing network assets

Network assets can be separated into 3 components:

- (a) those assets that provide service to the overall system that may not be appropriate to allocate to individual parts of the system (**common service assets**);
- (b) those assets that are fully dedicated to providing connection to a single generator or group connected at a single point within the network (**entry assets**) or fully dedicated to the supply of load users connected at a single point within the network (**exit assets**) together referred to as **connection assets**; and
- (c) those assets that are shared to a greater or lesser extent by all users across the system and can be identified as related to a specific part of the system (**network system assets**).

2 Network assets that provide common services

Common service network assets can include but are not limited to:

- (a) power system communications networks;
- (b) control systems;
- (c) control centres;
- (d) dynamic reactive control plant;
- (e) static reactive plant;
- (f) spare plant and equipment including that installed at substations;
- (g) fixed assets such as buildings and land that are not associated with substation or line easements, eg. head office buildings, land for future stations etc.;
- (h) load control signalling equipment in substations and on customer premises; and
- (j) motor vehicles and construction equipment.

3 Connection assets (entry and exit assets)

- (1) Entry and exit assets include only stationary assets including transformers that are used to supply load at the interface between network users and the electricity network.
- (2) Transmission lines connecting generators to the network provider's assets may be assets of the generator and, if owned by the network provider, are to be treated as connection assets.
- (3) Connection assets can include but are not limited to:
 - (a) participant generator switchyards:
 - (i) entry (connection assets):
 - (A) transmission switchgear and associated plant used for connection of generator transformers; and
 - (B) station establishment and buildings; and
 - (ii) shared network – all switchgear for termination of transmission lines from the station;
 - (b) load point substation:
 - (i) exit (connection assets):
 - (A) all switchgear at intermediate voltage levels (ie feeder circuit breakers and sub-transmission bus-tie circuit breakers and isolators);
 - (B) all transformers which supply intermediate voltage levels, and associated switchgear at both the transmission and sub-transmission voltage levels;
 - (C) station establishment and building costs;
 - (D) any bus-ties at the transmission voltage level; and
 - (E) reactive plant installed for power factor correction;
 - (c) distribution network connection assets, which typically include the following:
 - (i) service lines plus meters for domestic customers;
 - (ii) service lines, meters, dedicated distribution transformers and associated switchgear for medium size commercial and industrial customers;

- (iii) high voltage lines and plant for major commercial and industrial customers;
- (d) metering installations on network user feeders; and
- (e) land at stations which supply load or connect generators.

4 Network system assets

- (1) The remaining network assets are included as network system assets.
- (2) Network system assets include all elements of the network that provide use of system services and give rise to the majority of the costs.
- (3) Network system assets can include but are not limited to:
 - (a) transmission network:
 - (i) transmission lines;
 - (ii) switchgear (circuit breakers and isolators) on transmission lines and transformers which are part of the transmission network and are switched at the station including associated bus work and control and protection schemes;
 - (iii) transformers which transform voltage between transmission levels;
 - (iv) any dynamic reactive plant and associated switchgear and transformation regardless of voltage level;
 - (v) all existing static reactive plant and associated switchgear; and
 - (vi) all system controls required for monitoring and control of the integrated transmission system – this includes remote monitoring and associated communications, load shedding and special control schemes and voltage regulating plant required for operation of the system;
 - (b) distribution network:
 - (i) distribution lines including all poles and associated hardware;
 - (ii) terminating switchgear (circuit breakers and isolators) including associated protection and controls;

- (iii) transformers between distribution voltage levels;
- (iv) switchgear for above transformers; and
- (v) underground cable systems including conduits and trenching;
- (c) reactive plant; and
- (d) station establishment and buildings.

5 Valuing network assets for first regulatory control period

- (1) Sunk assets (assets in place before the commencement date of the Code) are to be valued at available book values underlying the published and audited financial accounts at the end of the preceding financial year (30 June 1999) provided those values do not exceed the assets' optimised deprival value, as defined in this Schedule.
- (2) Deprival value is the minimum loss that would result if the business were deprived of the asset.
- (3) For example:
 - (a) if the asset can and should be replaced – the deprival value of the asset is its replacement cost; or
 - (b) if the asset would not be replaced – the deprival value of the asset is the greater of the net present value of expected cash flows from its continued use or the net realisable value of disposing of the asset (its economic value).
- (3) Optimised deprival value is a variant of the deprival value approach and takes account of the most efficient method of providing the asset's services if the asset is to be replaced.
- (4) For example, if the asset can and should be replaced – the optimised deprival value of the asset is its optimised replacement cost.
- (5) During a regulatory control period, assets acquired after commencement of that period are to be valued at cost.

6 Valuing network assets for second and subsequent regulatory control periods

- (1) Subsequent revaluation of assets brought into service after 1 July 1999 and subsequent valuation of existing assets generally in service on 1 July 1999 (for use during the second or subsequent

regulatory control periods, where the revaluations are to be used for regulatory purposes) are to be undertaken on a basis to be approved by the regulator.

- (2) In approving the basis of asset valuation to be used, the regulator must have regard to:
 - (a) the agreement of the Council of Australian Governments of 19 August 1994 that deprival value should be the preferred approach to valuing network assets; and
 - (b) any subsequent decisions of the Council of Australian Governments regarding the valuation of public sector assets.

Schedule 8 Establishing network provider's weighted average cost of capital (WACC)

1 Introduction

- (1) The WACC to be used during the first regulatory control period is to be measured in accordance with this Schedule.
- (2) The methodology for determining the WACC for use in subsequent regulatory control periods is to be determined by the regulator, taking into account measurement and definitional conventions generally accepted at the time.

2 Determining weighted average cost of capital

The pre-tax WACC formula to be used is:

$$\left[\frac{A}{1 - B(1 - C)} * (1 - D) \right] + [E * D]$$

where:

A is the required rate of return on equity, after company tax;

B is the effective tax rate;

C is the value of franking credits or imputation factor;

D is the gearing ratio (as measured by the debt to capital ratio); and

E is the pre-tax weighted average cost of debt.

3 The required rate of return on equity

- (1) The required rate of return on equity to be used is:

$$A + B * C$$

where:

A is the risk free rate of return;

B is the relative systematic risk of the individual company's equity;
and

C is the equity risk premium.

- (2) Each of the elements of the formula in subclause (1) is detailed in this Schedule.

4 Risk free rate of return

The risk free rate of return represents the expected return from an investment where returns are completely invariant to changes in average market returns. It is to be proxied by a Commonwealth government bond rate of an appropriate maturity.

5 The relative riskiness of the individual company's equity

- (1) An equity beta measures the sensitivity of returns on an individual equity investment to changes in returns in the total market and reflects both market risk and financial risks.
- (2) To ensure that the impact of financial risks associated with borrowing in a particular market is eliminated, the equity beta is to be appropriately delevered.
- (3) The delevered (or asset) beta is the market risk associated with a company had it been financed completely by equity.

6 Market risk premium

The market risk premium is the average return achieved by the equities market on a **'delevered'** asis (that is, removing any returns due to the financial risks associated with the debt levels involved) less the risk free rate of return. The market rate of return is to be an average rate – observed over an economic cycle – of returns achieved on capital invested in the private sector.

7 Effective tax rate

- (1) The effective tax rate refers to the rate of tax paid on accounting profits.
- (2) The rate may be different to the marginal tax rate due to timing and permanent differences. For example, a deduction for accelerated depreciation is a timing difference, and the carrying forward of past tax losses is a permanent difference.
- (3) The formula to be used for determining the effective tax rate, to be calculated as an average over time rather than for a specific year, is as follows:

$$\frac{A}{B - C - D - E}$$

where:

A is the actual tax paid in respect of a year;

B is the annual revenue;
 C are the annual operating expenses;
 D is the net interest paid; and
 E is annual depreciation.

8 Value of franking credits or imputation factor

The availability of tax imputation credits requires a modification to the standard WACC model to allow for the value to shareholders of tax credits associated with share dividends.

9 Gearing ratio

- (1) A gearing (debt to capital) ratio is required both:
 - (a) to delever (or ungear) the **beta factor** to be used for estimating the cost of equity; and
 - (b) to appropriately weight the cost of equity and the cost of debt when calculating the weighted average cost of capital.
- (2) The gearing ratio used is to abstract from fluctuations over time, including the state of capital markets and individual market and utility circumstances.

10 Required rate of return on debt

- (1) The network provider's credit standing will influence the margin over the risk free rate at which debt can be obtained.
- (2) The cost of debt used is to be consistent with the value of the gearing ratio used.

11 Calculating real WACC

- (1) Wherever fixed asset values are regularly revalued and so move in line with inflation a measure of the real-terms WACC is to be used. Using the real WACC will prevent double-dipping on the return on assets component of the MAR.
- (2) The formula to be used for determining the effective tax rate, to be calculated as an average over time rather than for a specific year, is as follows:

$$\frac{1 + A}{1 + B} - 1$$

where:

A is the nominal WACC; and

B is a measure of expected or forecast inflation.

Schedule 9 Network revenue caps for subsequent financial years

- (1) The revenue caps for the second and subsequent full financial years of the first regulatory control period are to be determined prior to the start of each of these financial years in accordance with this Schedule.
- (2) The revenue cap for the network provider for the financial year t (in \$) is to be determined by the regulator prior to the start of that financial year in a manner consistent with the following general formula:

$$[A + b*B + c*C \dots + \dots n*N] * [1 + (CPI-X)] + K$$

where:

A is the revenue cap established by the regulator a year earlier for the preceding financial year (in \$);

B (in MWh) is the total amount of additional electricity which it is forecast will be transported by the network provider over the network during financial year t ;

b is dollars per MWh;

C is the additional length of network which it is expected will be in service during financial year t (in kilometres);

c is dollars per circuit kilometre;

N is a general term for the expected change in the value of other relevant cost drivers during year t ;

n is dollars per units relevant to the variable in N;

CPI is the forecast annual percentage change in the consumer price index for the year in question;

X is the efficiency gains factor (as a percentage) determined by the regulator at the beginning of the regulatory control period in accordance with Schedule 10; and

K (in \$) is a correction factor for the year in question (for the third and subsequent financial years in a regulatory control period) allowing for the fact that the revenue cap set for the previous year may have been calculated using unit sales and CPI increases based upon incomplete or inaccurate information.

- (3) In applying the formula in subclause (2) to the first regulatory control period, the regulator may use:
 - (a) a single marginal cost driver related to the quantity of energy transported over the network; and
 - (b) a coefficient on that cost driver which has the effect of increasing the revenue cap in direct proportion to the annual growth expected in the quantity of energy transported.
- (4) The numbers and types of cost drivers to be used in each subsequent regulatory control period are to be matters to be determined by the regulator prior to the commencement of each of these periods.
- (5) The regulator is to address any biases or disincentives identified as resulting from the use of the cost driver(s) used in the previous regulatory control period as well as take into account measurement and definitional conventions generally accepted at the time.

Schedule 10 Determining efficiency gains factor (X factor)

1 Introduction

- (1) Under the Code, the revenue cap set for the network provider is increased each year in line with inflation (as measured by CPI) and certain cost drivers (limited during the first regulatory control period to energy sales) but decreased by an efficiency driver (the **X factor**) determined at the commencement of each regulatory control period by the regulator.
- (2) The CPI-X regulation provides the network provider with an incentive to increase efficiency (by reducing costs). In its simplest terms, the network provider must increase its efficiency by the X factor in order to maintain its profits at the level implied by the revenue cap. However, if the network provider can achieve efficiencies greater than those allowed for in the X factor, the higher level of profits remains with the business. In other words, the benefits of efficiency gains are shared between network users (ie. those gains achieved up to the X factor level) and the network provider (the gains achieved in excess of the X factor).
- (3) The X factor is to be applied by the regulator in a way that allows network providers to benefit from any cost reductions and improvements in productive efficiency that are in excess of a set benchmark, and to bear the impact of any under-performance against such benchmarks, without removing the incentives for managers and owners to undertake the activities that create efficiencies. The benefits to network users stem from the long-term downward pressure on prices, resulting from the efficiency gains achieved.

2 Determining appropriate X factor

- (1) The value of the X factor is to be determined by the regulator so that, if efficiency benchmarks are achieved, the network provider would achieve over time the allowable rate of return as defined in Schedule 6.
- (2) To this end, the regulator is to develop a profile for the maximum allowable revenue in each of the second and subsequent years of a regulatory control period using the building block approach based on:
 - (a) initial costs and financial position;
 - (b) assessed efficiency cost paths;
 - (c) quality of services provided;

- (d) principles for sharing efficiency gains; and
 - (e) the pace that cost reductions can be expected to be achieved.
- (3) The X factor is to be set so as to provide a transition that links the maximum allowable revenue at the end of the period with the value in the first year. Taking the parameters used in the revenue formula, the X factor is to be calculated to achieve a desired glide path, resulting in end-year revenues consistent with the building block analysis outcome.
- (4) In this way, the X factor will not simply reflect assumed productivity gains. The level of the X factor will also be influenced by which cost drivers are included in the revenue formula as well as the shape of the glide path proposed. X is therefore to be the real-terms change in revenues to be achieved if efficiency benchmarks are achieved relative to the revenues which would otherwise be generated, given assumptions regarding the nominated cost driver(s).
- (5) The pace at which cost reductions can be expected to be achieved is to be assessed by the regulator with reference to:
 - (a) expected productivity improvements to be achieved by the network provider;
 - (b) industry trends and benchmarks;
 - (c) expected changes in input prices, which may differ from the general economy-wide rate of price change (as measured by the rate of change in the consumer price index (CPI)); and
 - (d) the services to be provided by the network provider and the standards at which those services are to be provided.

3 Sharing benefit of out-performance

- (1) The CPI-X approach also requires indications on how efficiency gains achieved during a regulatory control period are to be shared with network users in subsequent regulatory control periods, and when.

(2) The following general approach is to be followed:

- (a) the network provider is to retain all profits earned within each regulatory control period by outperforming the relevant benchmarks (underlying the X factor), and to bear all profit shortfalls associated with any under-performance, except where:
 - (i) the revenue cap was set on the basis of false or materially misleading information;
 - (ii) there was a material error in setting the revenue cap and written consent of the parties affected by any amendment to the revenue cap has been obtained; or
 - (iii) extraordinary developments occur during a regulatory control period that, in the opinion of the regulator, were outside the network provider's control (including a change in ownership);
- (b) any excess profits (or unanticipated losses) arising during a regulatory control period on account of the actual values of the parameters used to estimate an annual revenue cap departing from forecast values are to be eliminated in full from the commencement of the following regulatory control period; and
- (c) any efficiency gains achieved during a regulatory control period which are beyond those foreshadowed in the X factor are to be phased out progressively over the course of the following regulatory control period, with such a glide path approach being achieved by building an explicit efficiency carryover component into the revenue cap for the following regulatory control period (which translates into an increase in the allowed rate of return over and above the rate that would otherwise be applied).

Schedule 11 Excess network usage charges

1 Introduction

- (1) Network access prices established within the revenue cap determined by the regulator are to be based upon the expectation that the network user's:
 - (a) actual demand at a connection point does not exceed the contract maximum demand for that connection; and
 - (b) the quantity of electricity transferred to the electricity network for or on behalf of the user at the connection does not exceed the declared sent-out capacity from the user in respect of that connection.
- (2) Where these limits are exceeded, excess charges not subject to the network revenue cap will apply in accordance with the methodology laid down in this Schedule.
- (3) For the purposes of this Schedule:
 - (a) the excess entry network usage amount (in kW or kVA) for an energy usage period for a group of connections is equal to the average aggregate rate (in kW or kVA) at which the generating units connected at an entry point transferred electricity to the electricity network during that period minus the declared sent-out capacity (in kW or kVA) for that entry point if that calculation is positive, and zero if that calculation is negative; and
 - (b) the excess exit network usage amount (in kW or kVA) for an energy usage period for a group of connections is equal to the average rate (in kW or kVA) at which electricity is transferred from the electricity network at an exit point during that period minus the contract maximum demand (in kW or kVA) for that exit point if that calculation is positive, and zero if that calculation is negative.

2 Excess entry network usage charge

- (1) If the excess entry network usage amount for an energy usage period is not zero, then an excess network usage period in respect of the group of connections commences at the start of that period, with each excess network usage period in respect of a group of connections comprising seven days.

- (2) If an excess network usage period in respect of a group of connections in respect of a user's access agreement commences during a month, then the excess entry use of network charge payable for the month (in \$) is determined by applying the following formula:

$$i=n$$

$$\sum (A_i/B * C * D)$$

$$i=1$$

where:

A_i (in kW or kVA) is the highest excess entry network usage amount for any of the energy usage periods which fall within excess network usage period i ;

B (in kW or kVA) is the declared sent-out capacity for that entry point;

C (in \$) is the use of network charge in respect of that entry point for the month;

D is the excess network usage factor set out in the network pricing schedule for the financial year in which the month falls;

the variable i represents an excess network usage period in respect of the group of connections that commenced during the month; and

the variable n represents the number of excess network usage periods in respect of the group of connections that commenced during the month.

3 Excess exit network usage charge

- (1) If the excess exit network usage amount for an energy usage period is not zero, then an excess network usage period in respect of the group of connections commences at the start of that period, with each excess network usage period in respect of a group of connections comprising seven days.
- (2) If an excess network usage period in respect of a group of connections in respect of a user's access agreement commences during a month, then the excess exit network usage charge payable for the month (in \$) is determined by applying the following formula:

$$i=n$$

$$\sum (A_i/B * C * D)$$

$i=1$

where:

A_i (in kW or kVA) is the highest excess exit network usage amount for any of the energy usage periods falling within excess network usage period i ;

B (in kW or kVA) is the contract maximum demand for that exit point;

C (in \$) is the use of network charge in respect of that exit point for the month;

D is the excess network usage factor set out in the network pricing schedule for the financial year in which the month falls;

the variable i represents an excess network usage period in respect of the group of connections that commenced during the month; and

the variable n represents the number of excess network usage periods in respect of the group of connections that commenced during the month.

Schedule 12 Out-of-balance energy charges

1 Introduction

- (1) In establishing charges for out-of-balance energy actually supplied, the power system controller is to apply the charging structure in this Schedule.
- (2) For the purposes of this Schedule:
 - (a) the energy loss factor for a connection point is the factor determined by the network provider at the start of each year by applying the steps set out in Schedule 13;
 - (b) a group of connections in respect of the network user's access agreement consists of the entry points and exit points specified in the access agreement and the entry points from which energy is being supplied to one or more of those connections (if different to the entry point in the access agreement);
 - (c) an energy usage period is a time interval (eg. half hour) specified from time to time by the network provider in line with good electricity industry practice;
 - (d) the permitted tolerance limit amount in respect of a group of connections associated with the network user's access agreement is as defined in Chapter 9 of the Code;
 - (e) the total out-of-balance energy usage amount (in kWh) for an energy usage period for a group of connections is an amount, after considering network energy losses, equal to the energy exit amount for that group for the energy usage period minus the energy entry amount for that group for the period, where:

the energy (entry or exit) amount (in kWh) for the group of connections in respect of an access agreement for a period is determined by applying the following formula to entry and exit values respectively:

$$j=n$$

$$\sum (A_j * B_j)$$

$$j=1$$

where:

A_j (in kWh) is the quantity of electricity transferred at entry (or exit) point j to the electricity network during the period;

B_j (a rate) is the network energy loss factor for the entry (or exit) point j and or for the transfer point supplying entry (or exit) point j , as appropriate;

the variable j represents an entry (or exit) point which is one of the group of connections; and

the variable n represents the number of entry (or exit) points in the group of connections; and

- (f) the terms ***permitted tolerance limit***, ***within-tolerance sell price of energy***, ***outside-tolerance sell price of energy***, ***within-tolerance buy price of energy*** and ***outside-tolerance buy price of energy*** all have the meaning defined for them in Chapter 11 of the Code.

2 Balancing and settlement of the supply of uncontracted energy

If a mismatch occurs during any energy usage period, after account is taken of energy losses, between energy imports into and energy exports from an electricity network in connection with an access agreement during that period, certain energy usage charges (or refunds) will apply.

3 Within-tolerance energy usage charge (or refund)

- (1) The portion of the total out-of-balance energy usage amount for an energy usage period that is within the permitted tolerance limit for the group of connections, accumulated over a monthly period, will attract a within-tolerance energy usage charge (or refund).

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- (2) The within-tolerance energy usage charge for a month (in \$) is determined by applying the following formula:

$$A * B * 0.01$$

where:

A (in kWh) is the sum of the within-tolerance out-of-balance energy usage amounts for all the energy usage periods falling within the month, where the within-tolerance out-of-balance energy usage amount for an energy usage period is defined as follows:

- (a) if the total out-of-balance energy usage amount for an energy usage period is positive, that total amount or the permitted tolerance limit amount, whichever is less; or
- (b) if the total out-of-balance energy usage amount for an energy usage period is negative, that total amount or the permitted tolerance limit amount expressed as a negative value, whichever is the greater; and

B (in ¤/kWh) is the within-tolerance sell price of energy set out in the out-of-balance energy pricing schedule for the financial year in question if the monthly within-tolerance out-of-balance amount is positive, or the within-tolerance buy price of energy stated in that schedule if that monthly amount is negative.

- (3) If the within-tolerance energy usage charge for a month is positive, then that amount is payable by the generator user to PAWA Generation.
- (4) If the within-tolerance energy usage charge for a month is negative, then an amount equal to that negative number multiplied by –1 is payable by PAWA Generation to the generator user.

4 Outside-tolerance energy usage charge (or refund)

- (1) If the total out-of-balance energy usage amount for an energy usage period exceeds the permitted tolerance limit for the group of connections, an outside-tolerance energy usage charge (or refund) is also payable.

- (2) The outside-tolerance energy usage charge for an energy usage period (in \$) is determined by applying the following formula where the total out-of-balance energy usage amount exceeds the permitted tolerance limit:

$$A * B * 0.01$$

where:

A (in kWh) is the outside-tolerance energy usage amount for the energy usage period defined as follows:

- (a) if the total out-of-balance energy usage amount for an energy usage period is positive, that total amount less the permitted tolerance limit amount; or
- (b) if the total out-of-balance energy usage amount for an energy usage period is negative, that total amount less the permitted tolerance limit amount expressed as a negative value; and

B (in ¢/kWh) is the outside-tolerance sell price of energy set out in the out-of-balance energy pricing schedule for the financial year in question if the outside-tolerance energy usage amount in the energy usage period is positive, or the outside-tolerance buy price of energy stated in that schedule if that excess amount is negative.

- (3) If the sum of any outside-tolerance usage charges for all the energy usage periods in a month is positive, then that amount is payable by the generator user to PAWA Generation.
- (4) If the sum of any outside-tolerance usage charges for all the energy usage periods in a month is negative, then an amount equal to that negative number multiplied by –1 is payable by PAWA Generation to the generator user.

Schedule 13 Energy loss factor formula

1 Introduction

The energy loss factor for a connection point is the factor determined by the network provider applying the steps.

2 Transfer energy losses

- (1) The energy loss factor for a connection point that is a point at which electricity is transferred between different owned and operated electricity networks or between transmission and distribution systems within an electricity network is a factor determined by the network provider for specific transfer locations.
- (2) The factor applying to each specific location during a financial year is to be derived from simulations of forecast network load and generation conditions for multiple energy usage periods reflecting actual conditions experienced in the preceding 12 months and anticipated changes to demand and generation location and output.

3 Network energy losses

The energy loss factor for connection points within a commonly owned and operated transmission or distribution system is the factor determined by the network provider applying the following steps, depending upon whether an exit or an entry point is involved.

4 Exit point energy loss factor

To calculate the energy loss factor to apply during a financial year for a connection which is an exit point, the network provider must:

- (a) determine the line losses assuming the connection point was not there and assuming feeder maximum load;
- (b) determine the line losses assuming only the connection point was there;
- (c) determine the total line losses assuming all the connections are there (including the connection point for which the energy loss factor is being determined) and assuming feeder maximum load;
- (d) allocate a share of the total line losses calculated under step (c) to the connection point for which the energy loss factor is being determined based on the ratio of the result of step (b) and the sum of the results of steps (a) and (b);

- (e) calculate the loss factor for the connection point by applying the following formula:

$$1 + A/B$$

where:

A (in kW or kVA) is the share of the total line losses allocated to the connection point under step (d); and

B (in the same units as for A) is the contract maximum demand for the exit connection point.

5 Entry point energy loss factor

To calculate the energy loss factor to apply during a financial year for a connection which is an entry point, the network provider must:

- (a) determine the line losses assuming the connection point was not there and assuming feeder maximum load;
- (b) determine the total line losses assuming all the connections are there (including the connection point for which the energy loss factor is being determined) and assuming feeder maximum load;
- (c) calculate the loss decrease (increase) for the connection point for which the energy loss factor is being determined by subtracting the result of step (b) from the result of step (a); and
- (d) calculate the loss factor for the connection point by applying the following formula:

$$1 + A/B$$

where:

A (in kW or kVA) is the loss decrease (increase) calculated for the connection point under step (c); and

B (in the same units as for A) is the declared sent out capacity for the entry connection point.

ENDNOTES

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KEY

Key to abbreviations

amd = amended
app = appendix
bl = by-law
ch = Chapter
cl = clause
div = Division
exp = expires/expired
f = forms
Gaz = *Gazette*
hdg = heading
ins = inserted
lt = long title
nc = not commenced

od = order
om = omitted
pt = Part
r = regulation/rule
rem = remainder
renum = renumbered
rep = repealed
s = section
sch = Schedule
sdiv = Subdivision
SL = Subordinate Legislation
sub = substituted

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LIST OF LEGISLATION

Electricity Networks (Third Party Access) Act 2000 (Act No. 11, 2000)

Assent date	21 March 2000
Commenced	1 April 2000 (<i>Gaz</i> S14, 31 March 2000)