Explanatory statement and proposed demand management incentive scheme to apply to Energex, Ergon Energy and ETSA Utilities over the 2010-15 regulatory control period

June 2008

AUSTRALIAN ENERGY REGULATOR

Request for submissions

Interested parties are invited to make written submissions to the Australian Energy Regulator (AER) on the issues discussed in this paper by the close of business on 11 August 2008. Submissions can be sent electronically to AERInquiry@aer.gov.au.

Alternatively, written submissions can be sent to:

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The AER prefers that all submissions be in an electronic format and publicly available, to facilitate an informed, transparent and robust consultation process. Accordingly, submissions will be treated as public documents and posted on the AER's website, www.aer.gov.au except and unless prior arrangements are made with the AER to treat the submission, or portions of it, as confidential. Any enquiries about this issues paper, or about lodging submissions, should be directed to the AER's Network Regulation South Branch on (03) 9290 1444 or at the above email address.

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Shortened forms

ACT	Australian Capital Territory
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
capex	capital expenditure
CPUC	California Public Utilities Commission
DME	Queensland Government Department of Mines and Energy
DMIS	demand management incentive scheme
DNSP	distribution network service provider
EBSS	efficiency benefit sharing scheme
GWh	Giga watt hours
NEL	National Electricity Law
NEM	National Electricity Market
NER	National Electricity Rules
NSW	New South Wales
MCE	Ministerial Council on Energy
opex	operating expenditure
QLD	Queensland
SA	South Australia
STPIS	service target performance incentive scheme
TEC	Total Environment Centre
WAPC	weighted average price cap

1 Introduction

The AER is responsible for the economic regulation of distribution network service providers (DNSPs) in the National Electricity Market (NEM), in accordance with the National Electricity Rules (NER).

Chapter 6 of the NER allows the AER to develop and publish a demand management incentive scheme (DMIS) to provide incentives for DNSPs to implement efficient non-network alternatives or to manage the expected demand for standard control services in some other way. Unlike the service target performance incentive scheme (STPIS) and the efficiency benefit sharing scheme (EBSS), the AER is not required to develop a DMIS.

The AER is in the early stages of considering its approach to the development of a national DMIS suitable for application across the NEM. Consultation on the development of a national scheme has not yet commenced. The AER considers that the development of such a scheme should take account of related policy initiatives, including demand side response initiatives more generally (currently being considered by the AEMC) as well as future greenhouse policies, including carbon emission/trading arrangements being considered by the Australian Government. These matters are still under consideration.

However, to ensure that application of a DMIS to DNSPs in Queensland and South Australia could be considered, the AER initiated a separate consultation process for these jurisdictions. On 18 April 2008, the AER released an issues paper on the potential development of a DMIS to apply to Energex, Ergon and ETSA Utilities over the 2010-15 regulatory control period. The AER received eight submissions in response to this issues paper, which are available on the AER's website, www.aer.gov.au.

This explanatory statement sets out the AER's consideration of issues raised in submissions in the development of its proposed DMIS for Queensland and South Australia, as required under the consultation procedures in Part G of chapter 6 of the NER.

Interested parties are requested to make written submissions on any issues discussed in this paper, and on the proposed DMIS by 11 August 2008.

2 Rule requirements

Clause 6.6.3 of the NER states that the AER may develop an incentive scheme or schemes to provide incentives for DNSPs to implement efficient non-network alternatives, or to manage the expected demand for standard control services in some other way.

In developing and implementing a DMIS, the AER must have regard to:

- the need to ensure that benefits to consumers likely to result from the scheme are sufficient to warrant any reward or penalty under the scheme for DNSPs
- the effect of a particular control mechanism (i.e. price – as distinct from revenue – regulation) on a DNSP's incentives to adopt or implement efficient non-network alternatives
- the extent the DNSP is able to offer efficient pricing structures
- the possible interaction between a DMIS and other incentive schemes
- the willingness of the customer or end user to pay for increases in costs resulting from implementation of the scheme.

The distribution consultation procedures in Part G of Chapter 6 of the NER require the AER to publish a proposed DMIS and explanatory statement, inviting submissions and giving stakeholders and interested parties at least 30 business days to respond. Within 80 business days of publishing the proposed DMIS, the AER must publish its final decision and DMIS. This explanatory statement and proposed DMIS (see Appendix B) have been prepared to satisfy the AER's obligations under clause 6.16(b) of the NER in this regard.

3 Reasons for the demand management incentive scheme

The DMIS is not intended to be the sole, or even the primary, source of recovery of expenditure associated with demand management initiatives.

The AER considers it appropriate that the primary source of funding for demand management programs in a regulatory control period should be the forecast opex and capex approved in the distribution determination. Clauses 6.5.6(e) and 6.5.7(e) of the NER require that, in determining whether it is satisfied with a DNSP's forecasts of capex and opex, the AER must have regard to the extent to which the DNSP has considered and made provision for non-network alternatives. While these clauses may not expressly place obligations on DNSPs to demonstrate that they have had specific regard to demand management alternatives to network-related capex and opex projects, an allowance for expenditure on demand management initiatives can be provided as part of a DNSP's forecast opex or capex at the time of making a distribution determination. For this to occur, a DNSP must satisfy the opex and capex criteria of Chapter 6 of the NER.

The AER notes that there are existing incentives for DNSPs to conduct demand management within the current regulatory framework. For instance, the regulatory regime provides a financial incentive to undertake demand management expenditure that defers capex included in the forecast approved at the time of the distribution determination, to the extent that the benefits of the capex underspend outweigh the demand management expenditure required to achieve that deferral.

Conversely, the regulatory framework may also provide some disincentives to undertake demand management. Most notably, non-network solutions may offer a lower (inherent and/or perceived) level of reliability when compared to network solutions, which has implications for a DNSP's reliability obligations and service target performance.

The objective of the AER's proposed DMIS is to provide incentives for DNSPs to implement efficient non-network alternatives or to manage the expected demand for standard control services in some other way.[1] The DMIS complements approved capital and operating expenditure incentives for demand management, by facilitating investigation of viable and efficient demand management strategies so that DNSPs can improve their demand management capabilities. It will allow DNSPs to implement efficient non-network alternatives or to manage the expected demand for standard control services within and/or beyond the regulatory control period in which the scheme is applied. The scheme is therefore designed to provide further financial capacity to a DNSP to examine demand side alternatives beyond that which may be readily captured in its core revenue proposal.

The AER proposes to apply a DMIS in the form of a demand management innovation allowance in Queensland and South Australia in the 2010-15 regulatory control period. The demand management innovation allowance is an annual ex ante

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1 NER, Clause 6.6.3(a)

allowance provided as a fixed amount of additional revenue at the commencement of each regulatory year. The total amount recoverable under the allowance within a regulatory control period will be capped at an amount that is broadly proportionate to the size of the DNSP's annual revenue requirement in the previous regulatory period, and distributed evenly across each year of the regulatory control period. The demand management innovation allowance aims to encourage DNSPs to undertake efficient broad-based demand management which can assist in providing long-term benefits to consumers and DNSPs by allowing recovery of approved costs throughout the regulatory control period. It operates as a complement to existing incentives in the regulatory framework.

4 Issues raised in submissions and the AER response

4.1 Costs and benefits of implementing a DMIS

4.1.1 Stakeholder comments

Submissions were largely in favour of the implementation of a DMIS for Queensland and South Australian DNSPs.

Energex submitted that it supports the continued development and implementation of demand management initiatives, which should include some form of low-powered DMIS.

ETSA Utilities submitted that in the absence of any DMIS, DNSPs have little incentive to apply demand management solutions. ETSA Utilities also submitted that any costs associated with implementing a DMIS were immaterial when compared to the significant benefits that may be achieved in the future from such a scheme.

CitiPower and Powercor submitted that current regulatory arrangements do not adequately incentivise the pursuit of demand side alternatives to network augmentation, and that the most effective way of correcting such arrangements is through a DMIS.

Energy Response submitted that a robust DMIS is needed to encourage DNSPs to actively undertake demand management projects, and to incorporate demand management into their core business processes.

Aurora Energy submitted that the DMIS should be seen as part of a broader regulatory regime which seeks to encourage DNSPs to pursue the most efficient means of meeting customer demand.

The Queensland Government Department of Mines and Energy (DME) submitted that it supports the implementation of a DMIS, in particular given the current climate of escalating energy demand in Queensland. The DME highlighted that currently approximately 10 per cent of Queensland's network capacity is installed to meet peak electricity demand that occurs for around one week per year, and submitted that demand management measures that reduce peak demand can assist with the deferral of expensive network augmentation.

The Total Environment Centre (TEC) submitted that it considers a DMIS is needed to address the imbalance between the supply side and demand side of the NEM.

By contrast, Ergon Energy (Ergon) submitted that there is ample scope within the existing regulatory framework for it to pursue demand management projects, until such time as the AER develops a national scheme which takes account of the Ministerial Council on Energy's (MCE) and the AEMC's concurrent reforms.

4.1.2 AER response

In light of these submissions, and general stakeholder support for the development of a DMIS, the AER has decided to develop and release a proposed DMIS to apply to Energex, Ergon and ETSA Utilities over the 2010-15 regulatory control period.

The AER's intention is that the DMIS implemented for the Queensland and South Australian DNSPs in their 2010 distribution determinations will be modest in nature, and will have limited cost impacts on end users. The DMIS is not expected to be the primary source of funding for demand management in the 2010–15 regulatory control period. Rather, the AER expects that forecast opex and capex for demand management approved in the distribution determinations will fund the majority of demand management projects and programs in the regulatory control period. In this way, the AER considers that the DMIS is part of the broader regulatory framework that requires DNSPs to consider non-network alternatives to network augmentation, both before and within the regulatory control period, and to pursue the most efficient means of meeting customer demand.

4.2 Objective of the AER's proposed DMIS

4.2.1 Stakeholder comments

Aurora Energy requested that the AER clarify its intent with respect to demand side management, and what a DMIS might be seeking to achieve, within the context of the requirements of clause 6.6.3 of the NER.

Ergon submitted that the AER's issues paper on the potential development of a DMIS for Energex, Ergon and ETSA Utilities over the 2010–15 regulatory control period, did not resolve the question as to what the DMIS seeks to achieve in the broader regulatory framework for demand management. Ergon's submission sought clarity on the AER's interpretation of the DMIS objective in the context of clause 6.6.3(a) of the NER. Ergon raised the question whether the objective of the DMIS is to:

- reduce network demand
- reduce the electricity bills of end-users
- facilitate demand side participation (i.e. non-network alternatives)
- achieve environmental benefits.

Ergon submitted that the AER should make it clear whether the DMIS is targeted to address specific areas of the network (e.g. areas of congestion), or intended to be broad based.

The TEC commented that policy and regulation makers in the NEM, such as the AER, discuss demand management in terms of what is 'cost effective.' The TEC submitted that there is '*no good reason why demand management solutions should only be acceptable at a lower cost...* (particularly) *when they bring so many extra benefits to consumers and the NEM in general…*'

The DME submitted that a DMIS that leads to reductions in greenhouse gas emissions is considered critical in the context of the Government's commitments on climate change.

4.2.2 AER response

The AER's role, with respect to demand management, is as an economic regulator of electricity distribution companies. Its primary role is to apply and ensure compliance with the NER. The AER's roles and functions are limited to those set out in the NER.

The objective of the AER's proposed DMIS is that stated in clause 6.6.3(a) of the NER: to provide incentives for DNSPs to implement efficient non-network alternatives or to manage the expected demand for standard control services in some other way. The DMIS is designed to improve the general functioning of the incentive framework with respect to the utilisation of non-network alternatives.

The AER notes that this objective does not define the specific outcomes that a DMIS aims to achieve. To clarify, the different types of demand management projects that could be captured by such a scheme would fall within the following definitions:

- *peak demand management* - projects that aim to address a specific network constraint by reducing demand on the network at the position or time of the constraint

- *broad-based demand management* – projects targeted to sections of the market such as residential customers, energy efficiency projects, which may provide overall network and customer benefits in the long term through lower overall or peak demand and consequently more efficient use of existing infrastructure.

The AER recognises that rising peak demand has led to constraints within distribution networks, and that peak demand management has the potential to assist in addressing these constraints in the form of targeted non-network solutions that will remove or defer the need for capital investment to augment the network. However, the AER considers that there are also existing incentives within the regulatory framework for DNSPs to conduct peak demand management.

As outlined in the AER's issues paper, DNSPs have an existing incentive to conduct demand management where it is more economically efficient than implementing network augmentation to meet peak demand. The AER will approve the recovery of a certain amount of forecast capex for each DNSP at the time of its distribution determination. For any planned capex that is deferred or deemed no longer necessary during the regulatory control period, DNSPs are able to retain the return on and return of these underspends for the remainder of the regulatory control period. This may provide incentives for DNSPs to seek ways to meet their supply obligations by managing demand on their networks, thereby deferring the need for capex and retaining the return on and return of the costs for the amount of capex deferred for the remainder of the regulatory control period.

Where the net costs of conducting peak demand management are less than the costs of implementing network augmentation, given the return from any underspend that a DNSP will retain, DNSPs have an incentive to carry out peak demand management.

The DMIS aims to complement the existing incentives within the regulatory framework for a DNSP to carry out non-network alternatives to network augmentation, and operates in conjunction with those incentives.

While broad–based demand management may not provide immediate capex deferral benefits to DNSPs (unlike peak demand management) the AER considers that an efficient level of broad–based demand management will be in the long term interests of both DNSPs and consumers. This enables DNSPs to more efficiently utilise their existing network assets, for example by improving energy efficiency. The AER's proposed demand management innovation allowance aims to build upon the existing incentives in the regulatory framework for DNSPs to conduct both peak and broad–based demand management.

While the AER notes that demand management has the potential to create positive environmental externalities, the recovery of costs from users through regulated revenues should be pursued in a manner that is economically efficient. The pursuit of environmental objectives and demand reductions in isolation from the efficient operation of the network is not required, or rewarded, by the DMIS. As reflected in the national electricity objective, the purpose of the economic regulatory framework established in the NER, and the AER's role as economic regulator, is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:

- price, quality, safety, reliability and security of supply of electricity; and
- the reliability, safety and security of the national electricity system.

Where demand management initiatives can be demonstrated to contribute to the implementation of efficient, non-network alternatives and management of the expected demand for standard control services, they will be eligible for cost recovery, up to the specified cap, under the proposed demand management innovation allowance.

4.3 Interaction of the scheme with other incentive mechanisms

4.3.1 Stakeholder comments

A number of submissions expressed concern over the interaction of a DMIS with the EBSS and STPIS. Submissions generally stated that the AER's EBSS should exclude opex on demand management, and the STPIS should exclude demand management related outages.[2]

Ergon submitted that incentive schemes may result in side constraints on network prices being exceeded. Ergon suggested that 'banking' mechanisms, similar to those that apply under the STPIS may be required to manage this potential outcome.

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[2] These submissions include those from Energex, Ergon, ETSA Utilities, CitiPower and, Powercor, and the TEC

ETSA Utilities suggested that the AER should provide a capital efficiency carryover mechanism within the EBSS, for capex delayed as a result of successful demand management projects.

4.3.2 AER response

The AER notes that expenditure on demand management may increase opex, which could lead to a corresponding penalty under the EBSS. To minimise the impact of the EBSS on the incentives to undertake efficient demand management programs, the AER will exclude demand management costs from the EBSS.

The AER notes submissions made in response to its proposed service target performance incentive scheme that the STPIS should exclude demand management related outages, to balance the perceived disincentives to adopt non-network alternatives to augmentation. The objective of the STPIS is to maintain or improve service performance. An exclusion of the nature proposed would be inappropriate as customers should not be worse off in terms of the level of service performance they receive due to the implementation of demand management programs. The AER's STPIS is designed to be as neutral as possible regarding the level of reliability provided by network solutions vis-à-vis non network alternatives (i.e. DNSP service performance is not distinguished on this basis in the STPIS), to ensure that consistent signals for reliability performance are maintained.

The AER considers that the risks associated with the reliability of a non-network alternative are best managed by a DNSP through the commercial arrangements it establishes in relation to non-network alternatives. The AER intends to further consider the issues associated with providing incentives for non-network alternatives as part of its broader consideration of a national demand management incentive scheme for DNSPs.

The AER notes the suggestion that including capex efficiencies within the AER's EBSS would provide greater incentives for DNSPs to defer capex through the implementation of demand management initiatives.

Given the existing incentives to underspend on capex (particularly in the earlier years of the regulatory control period), the AER considers that the greatest impact from a capex EBSS—in terms of providing incentives to undertake demand management—can be gained for deferrals that occur in the later years of the regulatory control period. However, if the deferred capex appears in the forecast for the subsequent regulatory control period, the length of the carryover period must be restricted to the period of the deferral, otherwise customers may for a period essentially pay twice for a single network augmentation. The level of scrutiny over project-specific forecasts and outturn capex that would be required to limit the carryover period in such a way would require quite rigorous reporting requirements within the DMIS, which may not be desirable. At this stage the AER does not intend to incorporate such a capex adjustment to the DMIS, but may reconsider this issue during its consideration of a national DMIS.

Capex efficiency was considered and consulted upon as an element to be included in the EBSS at the time of that scheme's development, and subsequently rejected in the final scheme. The AER's final decision on the EBSS, and its reasons for that decision,

were released on 30 June 2008, and are available on the AER's website, www.aer.gov.au.

The AER notes Ergon's submission that the DMIS may result in side constraints on network prices being exceeded. The AER considers that given the proposed DMIS is a modest scheme, it is unlikely to result in significant impacts on customers' prices, and as such is unlikely to breach side constraints on network prices.

4.4 Interaction of a DMIS with control mechanisms

4.4.1 Stakeholder comments

Energex submitted that a fixed revenue cap form of regulation is relatively neutral in relation to incentives for demand management alternatives. Energex submitted that depending on the control mechanisms applied, additional incentives may be warranted for demand management.

Ergon submitted that the driver for implementing a D-factor appears inconsistent with the revenue cap form of control, under which revenue is independent of the level of energy consumed. Ergon submitted that the relative incentives and disincentives for each DNSP to conduct demand management will need to be assessed in the context of the specific control mechanisms and service classifications that will apply to that DNSP.

ETSA Utilities submitted that the implementation of any DMIS should consider the control mechanism in place and attempt to negate any intrinsic disincentive under that control mechanism to implement demand management solutions.

CitiPower and Powercor submitted that where demand management delivers a more cost effective solution to a network alternative, it will be equally attractive to a distributor under a price cap form of control as any alternative form of control.

The TEC submitted that it strongly promotes a revenue cap for DNSPs over a price cap as the 'least worst' disincentive for demand management. The TEC stated that if a price-cap is applied to DNSPs, then it must include incentives for demand side response and distributed generation to counter the incentives and cultural bias for DNSPs to sell more electricity.

The DME submitted that whilst a revenue cap may provide more incentive for DNSPs to conduct demand management than a price cap, a revenue cap alone does not provide the level of incentive required to drive extensive demand management activity. It submitted that a further incentive is required to encourage DNSPs to consider demand management as part of their core business.

4.4.2 AER response

The NER allow both for different control mechanisms to be applied to different DNSPs, and for multiple control mechanisms to be applied to a single DNSP. Control mechanisms may have an impact upon a DNSP's incentives to carry out demand management initiatives. The AER accepts that the incentives for demand management may be affected by the form of control. For instance, in certain circumstances a revenue yield form of control may create strong incentives to restrict reductions in

energy sales and prevent demand management. On the other hand, a revenue cap may create incentives to cooperate with demand management and potentially to expend resources to reduce demand for network services, to the extent that such expenditure is lower than the costs upon which regulated revenues are based.

The proposed demand management innovation allowance is a modest scheme, compatible with a range of control mechanisms. Its primary purpose is to facilitate investigation of innovative, broad-based demand management, rather than to provide a counter-incentive to any perceived pressures under various forms of control. The AER considers that facilitation of such initiatives is an important first step in building demand management capacity within a DNSP's business, which is a necessary precursor to any potential future application of an incentive mechanism attaching more significant rewards or penalties to demand management performance as a driver of DNSPs' consideration of non-network alternatives. It is considered that the significance of the different control mechanisms may be greater if a higher-powered scheme is being considered.

The AER does not intend the DMIS to be the primary source of funding for demand management in the 2010–15 regulatory control period. Rather, it expects that forecast opex and capex for demand management approved in the distribution determinations will fund the majority of demand management programs in the regulatory control period.

4.5 Application of a D-factor to Energex, Ergon and ETSA Utilities

4.5.1 Stakeholder comments

Ergon submitted that of the options proposed for consideration by the AER in the issues paper, it does not support the application of a D-factor in Queensland on the basis that:

- the driver for implementing the D-factor is inconsistent with a revenue cap form of control
- efficiencies and benefits resulting from the D-factor are as yet unproven
- the specific network congestion issues targeted by the D-factor are largely addressed by DNSPs through the application of the Regulatory Test.

Energex submitted that, given the form of regulation it proposed to apply over the 2010–15 regulatory control period, it does not believe a D-factor scheme is appropriate.

ETSA Utilities submitted that in the short term, an optimal DMIS should incorporate a D-factor scheme to encourage in-period demand management solutions.

CitiPower and Powercor submitted that whilst a step in the right direction, the D-factor model is complex in nature. The D-factor creates a lag between the time that expenditure is incurred and when it is received, and is subject to considerable uncertainty with respect to how the AER will estimate foregone revenues. The

submission also stated that the D-factor includes onerous reporting requirements, and is a high cost and (from a business perspective) extremely discretionary solution.

Energy Response submitted that the positive effect of the D-factor on a DNSP's revenue provides the key incentive to a DNSP to incorporate demand management into its core processes.

The TEC submitted that it supports, in principle, the D-factor incentive in the context of price-cap regulation and in the absence of a more effective alternative.

4.5.2 AER response

The AER recognises the potential for a D-factor scheme to provide positive incentives for a DNSP to conduct demand management initiatives. However, the AER notes that the D-factor is a complex mechanism, and exposes DNSPs to the risk that their demand management projects will not be approved for cost recovery under the scheme's ex post approval process. Also, the AER considers that the results of the D-factor applied in NSW have to date been inconclusive, and that continued observation of that scheme in the 2009-14 NSW regulatory control periods, to DNSPs to which it has already been applied in the current period, will provide a better foundation from which to consider the effectiveness of this scheme.

In developing a DMIS, the AER must take into account the willingness of customers or end users to pay for increases in costs resulting from the implementation of a DMIS. Without further study to support such an initiative it is not certain that a more powerful, uncapped incentive mechanism such as the D-factor, and the impact of the rewards and penalties under that scheme on prices, would satisfy this criterion in Queensland or South Australia at this time. The AER considers that a low–powered scheme such as the demand management innovation allowance will help to facilitate DNSPs' implementation of demand management initiatives within the regulatory control period, while minimising any resulting upward price pressure on customers' prices.

4.6 Application of the demand management innovation allowance

4.6.1 Stakeholder comments

4.6.1.1 Approval process

Ergon submitted that the costs of establishing the demand impact of a particular initiative may outweigh any reward for achieving a demand reduction under the demand management innovation allowance. Ergon also submitted that the combination of preliminary approval of individual projects on an ex ante basis, and final approval of project expenditure on an ex post basis, will involve high administration costs for both the AER and DNSPs.

ETSA Utilities submitted that the administrative burden of both ex ante and ex post reviews is unwarranted. It noted that the schemes outlined in the AER's issues paper appear highly administratively onerous on both the AER and DNSPs, and should be simplified in order to reduce costs.

4.6.1.2 Reporting of demand management opportunities

Energy Response submitted that extracting information on demand management solutions from DNSPs' planning reports and application notices is extremely tedious and often impossible. Energy Response considers that these reports should distil the requirements for demand side solutions.

The TEC submitted that it is essential that DNSPs accurately and thoroughly report on their investigation and implementation of demand management solutions to the AER, and that these reports be made publicly available. The TEC suggested that the AER develop a database of all demand management 'attempts and successes,' and that such reports would help change the cultural bias against demand management and serve to focus DNSPs on demand management.

Energy Response submitted that the demand management innovation allowance should be accessible to end users directly, so that they can invest in plant modifications or technologies to improve demand management outcomes.

4.6.1.3 Use it or lose it allowance

Ergon submitted that the 'use it or lose it' basis of the demand management innovation allowance has the potential to drive poorly structured trials that are undertaken hastily by a DNSP to ensure that funding is not lost. Ergon suggested that any allowance should be available for use in aggregate over the determination period, with flexibility to recognise trials that run over two or more years.

4.6.1.4 Amount of the allowance

Ergon submitted that the amount of the demand management innovation allowance applied to the ACT and NSW DNSPs is not sufficient to recognise the cost of undertaking trials or development activities over the sample of customers required to obtain meaningful and reliable results. Ergon suggested that the amount of the allowance should be increased to around 0.5 to 1 per cent of a DNSP's annual revenue.

The TEC submitted that an amount equating to at least 5 per cent of projected network capital expenditure should be set aside for demand management projects.

The DME's submission noted that the demand management innovation allowance developed for DNSPs in NSW and the ACT was low in comparison to the cost of implementing meaningful demand management trials. The DME submitted that it would support the implementation of a DMIS that would enable Queensland electricity businesses to undertake pilot projects and expand on current demand management trials. It highlighted the Cool Change air conditioning load control trials and the Townsville Solar Cities Project as examples of demand management projects that the DME considers a DMIS should enable.

4.6.2 AER response

4.6.2.1 Approval process

The AER notes stakeholder concerns that the demand management innovation allowance developed for NSW and the ACT is administratively onerous, and

recognises the importance of ensuring that funds available under a demand management innovation allowance are not eroded by high administrative costs.

The intention of the ex ante approval process in the demand management innovation allowance developed for NSW and ACT DNSPs is to establish, before funds are committed to a demand management initiative, clear criteria against which expenditure on that initiative will be assessed at the time ex-post approval is sought under the demand management innovation allowance. The process allows these criteria to be tailored to the initiative in question. The scheme developed for the NSW and ACT DNSPs contemplated ex post recovery of costs, without any ex ante allowance. The AER recognises, however, that such an approach necessitates both an ex ante and an ex post assessment/approval process, which carries associated administrative costs.

In order to reduce such administrative costs, the AER proposes that the demand management innovation allowance developed for South Australia and Queensland, which is outlined in section 5.2 below, instead take the form of an ex ante allowance provided in equal instalments in each year of the regulatory control period. The total amount recoverable under the allowance within a regulatory control period will be capped at an amount that is broadly proportionate to the relative size of the DNSP's annual revenue.

Expenditure under the allowance will be assessed annually on an ex post basis only. The amount of the total allowance that is not approved and/or not spent during the regulatory control period will be deducted from the allowed revenue in the subsequent regulatory control period. There will be no within period adjustments.

The criteria against which expenditure will be assessed at the ex post approval stage will be fixed in the scheme, rather than tailored to particular trials or initiatives in an ex ante approval process. Annual applications for recovery will be made public to ensure that the operation of the DMIS is transparent and interested parties can observe the results of the funded programs.

The proposed DMIS removes the administrative costs associated with the ex ante approval process, while retaining certainty as to how the ex post assessment will be conducted.

4.6.2.2 Reporting of demand management opportunities

The AER will require that the formal application for cost recovery be made public as part of a report on demand management programs carried out by DNSPs. In addition, at the completion of the annual review, the AER will publish the amount of any approved expenditure, and its reasons for approving, or not approving, expenditure under the demand management innovation allowance.

As the regulatory control period progresses, this will allow the AER to collect and publish information on the nature and extent of expenditure under the DMIS. Annual reports will also provide information on the effectiveness of approved initiatives, with regard to their stated objectives.

4.6.2.3 Use it or lose it allowance

The AER notes stakeholders' comments on the 'use it or lose it' characteristic of the demand management innovation allowance. The AER has decided to retain this aspect of the DMIS, but has extended it to the period as a whole, so that the amount spent in any one year of the regulatory control period is at the discretion of the DNSP. The proposed scheme allows for underspends to be retained for the length of the regulatory control period, but does not allow accumulated underspends at the end of the relevant regulatory control period to be carried into the next. In this way, the proposed scheme provides an incentive to make full use of the allowance within the regulatory control period for which it has been granted.

The total adjustment under the scheme is calculated to ensure the DNSP will be indifferent (in NPV terms) to the expenditure profile approved by the AER over the regulatory control period. This removes any incentive for the DNSP to defer/frontload expenditure within the regulatory control period.

4.6.2.4 Amount of the allowance

The AER notes stakeholder submissions that the amounts given under the demand management innovation allowance to NSW and ACT DNSPs are too small and should be increased.

The demand management innovation allowance is not intended to be the primary source of recovery for demand management expenditure. Rather, the AER considers it appropriate that a DNSP recover demand management costs primarily through forecast opex and capex approved at the time of the AER's distribution determination, and that recovery through regulated revenues of amounts in excess of that contemplated by the demand management innovation allowance is subject to the assessment of forecast opex and capex required by the NER. The DMIS is designed to facilitate innovative projects and programs. More routine demand management should be captured and assessed as part of forecast opex and capex. The AER considers that larger, on–going demand management programs and projects should be able to be foreseen at the time of the AER's determination, and as such should be included in forecast opex and capex within DNSPs' regulatory proposals. Demand management programs included in DNSPs' opex and capex proposals will be subject to the opex and capex criteria in the NER.

The demand management innovation allowance is a modest and administratively simple allowance with few reporting requirements, to enable the maximum amount of the allowance to be spent implementing demand management initiatives. In implementing a demand management innovation allowance, the AER aims to encourage DNSPs to investigate, trial and/or undertake efficient broad-based and peak demand management. In light of this, the AER considers it is appropriate for the demand management innovation allowance to be of similar magnitude as that applied in the ACT and NSW over the 2009–14 regulatory control period.

4.7 Other issues

4.7.1 Stakeholder comments

4.7.1.1 Environmental benefits of demand management

The TEC submitted that it considers one of the core values of a DMIS to be reduced greenhouse emissions, and that regulators should ensure that network planning and operational decisions take account of the implications of these decisions on the external environmental costs, in particular the costs associated with greenhouse gas emissions.

The DME submitted that reduced electricity consumption has positive flow-on benefits, including the reduction of greenhouse gas emissions.

4.7.1.2 Demand management in California

The TEC's submission outlines demand management programs carried out in California, and notes some differences between energy regulation in California and Australia. It describes the California Public Utilities Commission's (CPUC) goal of 'energy efficiency,' as being '*a mere footnote to the narrow goal of economic efficiency*' of Australian NEM regulators.

The TEC outlines a 'target-style' demand management program in which each utility is given a specific annual target in terms of the total electricity savings in GWh for that year. Under this target-style program, DNSPs would face rewards in the form of retained savings from demand management programs, and financial penalties.

The TEC submits that this target-style program, which it has based on the approach taken by the CPUC, warrants further investigation by the AER.

4.7.1.3 Rates of return on demand management investments

The DME suggested that the AER consider enabling DNSPs to earn the same return on investment for demand management measures as for capital investments that deliver the same level of reliability and security of supply at reasonable cost.

4.7.1.4 'Whole-of-industry' demand management initiatives

The DME submitted that demand management initiatives will be most successful when applied in concert with upstream and downstream market stakeholders, including generators, transmission networks and retailers. It suggested that the AER could look toward fostering a regulatory environment for the development of whole-of-industry demand management initiatives in order to maximise opportunities for a cost-efficient market.

4.7.2 AER response

4.7.2.1 Environmental benefits of demand management

As outlined in section 4.2.2, while demand management has the potential to create positive environmental externalities, the AER considers that the recovery of costs from users through regulated revenues should not be related solely to the pursuit of

environmental objectives, such that these options are pursued in a manner that is not economically efficient.

As reflected in the national electricity objective, the purpose of the economic regulatory framework established in the NER, and the AER's role as economic regulator, is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers with regard to:

1. price, quality, safety, reliability and security of supply of electricity
2. the reliability, safety and security of the national electricity system.

4.7.2.2 Demand management in California

The AER notes the wide degree of support for demand management projects and schemes in California, and is aware of the 'target-style' demand management programs carried out by CPUC. However, the AER would like to clarify some of the differences between energy regulation in California and the AER's role as an economic regulator of DNSPs within the NEM.

As noted by the TEC, the CPUC has established a priority sequence for electricity network owners' actions to address increasing energy needs, with energy efficiency and demand response being California's preferred means of meeting growing energy needs, followed by renewable resources and distributed generation. In addition to the priority sequence, the CPUC is able to provide network businesses with funds for demand management programs via a 'public goods charge,' which is included in customers' electricity bills. Such initiatives are representative of the policy environment in which the CPUC operates, whereby the Governor of California has power to determine energy efficiency goals and provide direct funding via 'taxes' for such goals to be achieved, whether it be through electricity businesses, the CPUC or various other electricity regulatory bodies operating in California.

The AER's primary role, in contrast to that of the CPUC, is to apply and ensure compliance with the NER. It is limited in its actions and decisions by the requirements of the NER, and operates under functions and powers set out in the NEL. The overarching objective of the NEL (the national electricity objective) is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to price, quality, safety, reliability and security of supply of electricity, and the reliability, safety and security of the national electricity system.

The AER considers that its proposed DMIS takes into account the national electricity objective, whilst operating within the bounds of the NEL and NER. As mentioned in section 4.2.2, the objective of the AER's DMIS is to provide incentives for DNSPs to implement efficient non-network alternatives or to manage the expected demand for standard control services in some other way, and is established within the NER. The AER's broader goal of economic efficiency was established at a policy level during the drafting of the NEL and NER. The AER notes that it does not have a role in determining national energy policy, rather its role in electricity is applying the NER and overseeing the operation of the NEM.

In addition, the AER notes that in contrast to California, the electricity market in Australia is not vertically integrated, meaning that DNSPs in Australia operate independently of businesses in other sectors of the electricity market. The AER's powers in regulating DNSPs do not extend to providing whole-of-market incentives, as explained in section 4.7.2.4.

The issues raised by the TEC relate to broader policy considerations which are outside the remit of the AER. It is noted, however, that a broader consideration of demand side response in the context of the NEM as a whole is currently being conducted by the AEMC and that the Commonwealth is looking at greenhouse policies more generally.

4.7.2.3 Rates of return on demand management investments

The AER notes the DME's suggestion that DNSPs be allowed to earn the same return on investment for demand management as for capital investments.

As mentioned above, the AER considers that the primary source of funding for DNSPs to carry out demand management over the 2010–15 regulatory control period is through the opex and capex allowances provided within the AER's determinations. Capex related to demand management approved in a distribution determination will be allowed to earn the same return on investment over the regulatory control period as network augmentation capital investments.

However, the NER do not allow DNSPs to earn a return on opex investments. As such, opex related to demand management will be treated in the same manner as other opex, and will not earn a return.

Expenditure approved under the proposed demand management innovation allowance, regardless of its nature, will not attract any return.

4.7.2.4 'Whole-of-industry' demand management initiatives

The AER notes the DME's suggestion on fostering the development of whole-of-market demand management initiatives. As highlighted in the issues paper, the AER considers that the electricity market structure, which allows the benefits of demand management projects to flow onto retail and generation sectors despite costs being incurred only by DNSPs, may discourage DNSPs from taking up demand management.

The AER's role in developing a DMIS to apply to DNSPs does not extend to other sectors of the electricity market, such as generation and retail. The electricity market in Australia is not vertically integrated, and the AER's functions and powers in relation to each market sector are different in nature and scope. As such, any DMIS applied to the Queensland and South Australian DNSPs at this time is unable to govern behaviour in other market sectors.

5 AER preliminary position and proposed scheme

5.1 Potential development of a DMIS for Queensland and South Australia

Stakeholders' submissions on the AER's issues paper were generally supportive of the AER's development of a DMIS for application in Queensland and South Australia for the 2010-15 regulatory control period. In response to stakeholder comments and in the context of the AER's conclusions listed in previous sections, the AER has decided to publish the proposed DMIS under the consultation procedures in clause 6.16(b)(1) of the NER.

5.2 Proposed Scheme

The AER proposes to apply a DMIS in the form of a demand management innovation allowance in Queensland and South Australia in the 2010-15 regulatory control period. The demand management innovation allowance aims to encourage DNSPs to undertake efficient broad-based demand management which can assist in providing long-term benefits to consumers and DNSPs by allowing recovery of approved costs throughout the regulatory control period.

Demand management projects eligible for recovery will fall within the following criteria:

- demand management projects or programs claimed under the scheme should be innovative, and target broad-based and/or peak demand reductions
- recoverable projects and programs may be tariff or non-tariff based
- costs recovered under the scheme must not be recoverable under any other jurisdictional incentive scheme
- costs recovered under the scheme must not be recovered under any other state or Commonwealth government scheme
- costs recovered under the scheme must not be recovered under forecast capital or operating expenditure approved in a distribution determination, or under any other incentive scheme in that determination

The proposed demand management innovation allowance to be applied in Queensland and South Australia differs to that applied in the ACT/NSW distribution determinations as it removes the ex ante approval process. The AER's proposed demand management innovation allowance for Queensland and South Australia instead takes the form of an annual, 'use-it-or-lose-it' allowance provided as additional revenue in each year of the regulatory control period. Recovery under the allowance will still be subject to an annual ex post assessment. However, the demand management innovation allowance sets the criteria that will guide the ex post assessment in the scheme itself.

5.2.1 Operation of the scheme

Operation of the demand management innovation allowance takes place in four key steps.

Step 1 Amount of the demand management innovation allowance

The total amount recoverable under the demand management innovation allowance within a relevant regulatory control period will be capped at an amount that is broadly proportionate to the relative size of the DNSP's annual revenue requirement in the previous regulatory control period.

Step 2 Access to the demand management innovation allowance

The approved amount of the demand management innovation allowance will take the form of an annual ex ante allowance provided as additional revenue for each regulatory year of the regulatory control period. The total amount of the allowance will be distributed evenly across each year of the regulatory control period.

The maximum amount that can be spent under the demand management innovation allowance in any one year is uncapped, however the total amount recoverable over the five years cannot exceed the total amount of the allowance determined in step 1. That is, within the regulatory control period the DNSP has the flexibility to select an expenditure profile that suits its needs.

Step 3 Approval of expenditure under the demand management innovation allowance

At the end of each regulatory year of the regulatory control period, the AER will conduct an ex post assessment of expenditure incurred by the DNSP in the preceding regulatory year, against criteria established in the scheme.[3] As a result of this assessment, expenditure will be either approved or rejected. The total amount of expenditure approved by the AER over the five year regulatory control period will not exceed the total amount of the allowance determined in step 1.

Step 4 Final year adjustment

Once data becomes available for the final year of the regulatory control period, the AER will calculate a carryover amount to account for:

- any amount of allowance unspent or not approved over the period; and
- the time value of money accrued / lost as a result of the expenditure profile selected by the DNSP.

Given the lag in data collection, the final carryover amount will be deducted from (added to) allowed revenues in the second year of the subsequent regulatory control period. The final adjustment is calculated to ensure that the DNSP is indifferent (in NPV terms) to the expenditure profile approved by the AER over the regulatory control period. This removes any incentive for the DNSP to defer/frontload expenditure.

[3] The AER's ex-post review will take place once audited data becomes available for the previous year.

6 Consideration of factors set out in the rules

In developing its DMIS for Energex, Ergon Energy and ETSA Utilities the AER must have regard to the factors prescribed in clause 6.6.3 of the NER. These are discussed in turn below.

The need to ensure that benefits to consumers likely to result from the scheme are sufficient to warrant any reward or penalty under the scheme for DNSPs

The rewards and penalties payable under a DMIS must be set at a level that ensures that the costs to consumers resulting from the associated adjustment to regulated revenues do not exceed the benefits expected to result from the implementation of the DMIS. In striking the appropriate balance, it must be recognised that the operation of such a scheme may result in cost impacts within a regulatory control period where benefits are unlikely to be revealed until later periods.

The AER considers that the demand management innovation allowance will help to encourage the implementation of demand management initiatives. These initiatives will provide long term efficiency gains to energy users that will outweigh any short term price increases. The demand management innovation allowance is designed to:

- facilitate investigation and pursuit by DNSPs of efficient, broad-based and/or innovative demand management projects and programs that have the potential to lead to the implementation of efficient non-network solutions within and beyond the regulatory control period, and

- encourage a more holistic management of the demand for standard control services.

Given that peak demand is a key driver of network capital expenditure, a demand management innovation allowance could also be used to implement initiatives which result in a more efficient use of existing infrastructure and a lower level of investment in new infrastructure through either deferral of, or removal of the need for, network augmentation and/or expansion expenditures. This may in turn lead to lower demand overall, lower investment in the networks, and consequently lower customer electricity prices.

The demand management innovation allowance is a modest scheme, provided on a ‘use it or lose it’ basis, and is designed to provide additional incentives for DNSPs to conduct demand management to those present within the broader regulatory framework. Consequently, increases in customer prices as a result of the scheme’s implementation are expected to be minimal.

The effect of a particular control mechanism (i.e. price – as distinct from revenue – regulation) on a DNSP’s incentives to adopt or implement efficient non-network alternatives

In developing a DMIS, the AER has had regard to the effects that particular control mechanisms have on the incentives or disincentives for DNSPs to undertake demand management. The AER accepts that incentives for demand management may be

affected by the control mechanism applied to a DNSP's standard control services. The AER will take into account the effect on incentives for demand management when determining the control mechanism to apply to a DNSP.

The AER's proposed demand management innovation allowance is a modest scheme, compatible with a range of control mechanisms, and as such is not constrained by the AER's decisions on the forms of control to apply. As noted above, the primary purpose of the proposed DMIS is to facilitate investigation of innovative, broad-based demand management, rather than to provide a counter-incentive to any perceived pressures under various forms of control. Facilitation of such initiatives is an important step in building demand management capacity in DNSPs, which is a necessary precursor to the application of an incentive mechanism attaching more significant rewards or penalties to demand management performance.

The extent the DNSP is able to offer efficient pricing structures

In developing its DMIS, the AER has had regard to the extent that DNSPs are able to offer efficient pricing structures, such that at a particular point in the network, the price of electricity reflects the true costs of supply at that location at a particular time. Efficient pricing structures would allow prices to reflect increases in the costs of supply of electricity in times of peak demand.

The AER considers that there is scope within the current regulatory arrangements to provide efficient pricing structures, for instance in the application of peak tariffs or time-of-use tariffs to a DNSP's large customers. However, constraints on pricing structures, in particular for small customers, continue to exist. This is partly due to the failure of price signals to reach small customers, which may be addressed by the roll-out of smart meters currently being considered by the MCE.[4] The ability of a DNSP to influence small customer demand through pricing structures is also limited in jurisdictions where efficient pricing signals are impeded by retail tariff bundling.

The AER considers that efficient pricing can assist the effectiveness of demand management programs, and that the application of a demand management innovation allowance will provide further incentives for DNSPs to conduct tariff-based demand management initiatives.

The possible interaction between a DMIS and other incentive schemes

In developing a DMIS, the AER has had regard to the effect that the application of a demand management innovation allowance will have on the incentives created by the EBSS and STPIS, and vice versa.

The incentive created by the DMIS is for a DNSP to develop and implement demand side management in response to network issues.

The AER's EBSS excludes opex on demand management from the operation of the EBSS. As such, DNSPs will not be penalised under the EBSS for increases in opex resulting from demand management expenditure not included in the distribution

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[4] NERA, *Cost benefit analysis of Smart Metering and Direct Load Control – Overview report for consultation*, 20 February 2008

determination. Expenditure under the demand management innovation allowance will also be excluded under the EBSS, and as such will not result in penalties for DNSPs under the EBSS.

As discussed in section 4.3 of this paper, the AER is aware of the perceived disincentive to implement non-network alternatives to augmentation created by the reliability performance measures in its STPIS, such that incentives to undertake demand side management may be diminished in the absence of an adjustment to targets or an exclusion to recognise what is seen as a greater risk that targets will not be met. However, the AER considers that the risk associated with non network alternatives is better placed with a DNSP than with its customers. Where aspects of performance are within a DNSP's control, the associated risk should also lie with the DNSP. The AER intends to consider this issue further as part of consultation on a national DMIS.

The AER does not consider the application of a demand management innovation allowance will negatively interact with the incentives created by other incentive schemes.

The willingness of the customer or end user to pay for increases in costs resulting from implementation of the scheme.

In developing the demand management innovation allowance, the AER has had regard to the extent to which customers are willing to pay for any increase in costs that may arise from the implementation of the scheme. The costs associated with the application of the DMIS should be commensurate with the value customers and end users attach to demand management. Studies to date indicate that customers are supportive in principle of demand management initiatives.[5] However, little is known about customers' willingness to pay for demand management initiatives.

In light of this, the AER considers that a modest scheme such as the demand management innovation allowance is appropriate at this time. While the scheme is expected to encourage DNSPs to conduct demand management initiatives which will provide long term efficiency gains to energy users, the impacts on customer prices are likely to be minimal.

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[5] ETSA Utilities' submission on the AER's issues paper stated that customer reaction to its current demand management initiatives indicated support of small scale investments, given the potential long term benefits.

Appendix A: Submissions received on issues paper

The following parties provided submissions on issues raised in the AER's DMIS issues paper released on 18 April 2008:

- Aurora Energy
- CitiPower and Powercor (combined submission)
- Energex
- Energy Response
- Ergon Energy
- ETSA Utilities
- Queensland Government Department of Mines and Energy (DME)
- Total Environment Centre (TEC)

Copies of these submissions are available on the AER's website at www.aer.gov.au.

Appendix B: The AER's proposed DMIS

The attached document sets out the AER's proposed DMIS to apply to Energex, Ergon and ETSA Utilities over the 2010–15 regulatory control period.

Proposed demand management incentive scheme for Energex, Ergon Energy and ETSA Utilities for the 2010-15 regulatory control period

June 2008

AUSTRALIAN ENERGY REGULATOR

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Shortened forms

AER	Australian Energy Regulator
DMIS	demand management incentive scheme
DNSP	distribution network service provider
NEL	National Electricity Law
NER	National Electricity Rules
NPV	net present value
STPIS	service target performance incentive scheme
WACC	weighted average cost of capital

1 Nature and authority

1.1 Introduction

This document sets out the Australian Energy Regulator's (AER) proposed demand management incentive scheme for Queensland and South Australian DNSPs. It has been developed to apply to Energex, Ergon Energy and ETSA Utilities under their distribution determinations for the regulatory control period commencing 1 July 2010.

1.2 Authority

Clause 6.6.3 of the National Electricity Rules (NER) allows the AER to develop, in accordance with the distribution consultation procedures, a demand management incentive scheme or schemes (DMIS). This proposed DMIS has been developed and published in accordance with the consultation requirements under clause 6.16(b) of the NER.

1.3 Role of this scheme

The role of the scheme, as set out in clause 6.6.3(a) of the NER, is to provide incentives for DNSPs to implement efficient non-network alternatives or to manage the expected demand for standard control services in some other way. The scheme is designed to complement the existing incentives for DNSPs to conduct non-network alternatives within the regulatory framework.

1.4 Confidentiality

The AER's obligations regarding confidentiality and the disclosure of information provided to it by a DNSP are governed by the Trade Practices Act 1974, the National Electricity Law (NEL) and the NER.

1.5 Version history and effective date

A version number and an effective date of issue will identify each version of this scheme.

2 The proposed scheme

2.1 Objectives

The objective of this scheme is to provide incentives for DNSPs to implement efficient non-network alternatives or to manage the expected demand for standard control services in some other way.

Clause 6.6.3(b) of the NER requires that in developing and implementing a DMIS, the AER must have regard to:

- the need to ensure that benefits to consumers likely to result from the scheme are sufficient to warrant any reward or penalty under the scheme for DNSPs
- the effect of a particular control mechanism (i.e. price – as distinct from revenue – regulation) on a DNSP's incentives to adopt or implement efficient non-network alternatives
- the extent the DNSP is able to offer efficient pricing structures
- the possible interaction between a DMIS and other incentive schemes
- the willingness of the customer or end user to pay for increases in costs resulting from implementation of the scheme.

2.2 Application of the scheme

The final DMIS will be applied through the AER's distribution determination for the Queensland and South Australian DNSPs. This will occur in three stages:

- The AER's framework and approach paper will set out the AER's likely approach, in a forthcoming distribution determination, to the application of the DMIS to a particular DNSP.
- A DNSP's regulatory proposal for a distribution determination must include a description, including relevant explanatory material, of how the DNSP proposes the DMIS (if applicable) should apply for the relevant regulatory control period. If the proposed application differs from that set out in the framework and approach paper, the AER will require a fully supported argument explaining the difference in approach, and detailing why a different approach would be more appropriate and how it would satisfy the requirements of the NEL and NER.
- The AER's distribution determination will include a decision on how the DMIS is to apply to a DNSP in the relevant regulatory control period.

3 Demand Management Innovation Allowance

The AER's proposed DMIS for Queensland and South Australian DNSPs is in the form of a demand management innovation allowance.

The demand management innovation allowance aims to encourage DNSPs to undertake efficient broad-based demand management which can assist in providing long term benefits to consumers and DNSPs. The demand management innovation allowance allows the recovery of costs for approved demand management projects and programs throughout the regulatory control period. The DMIS will complement the broader regulatory framework in providing incentives for DNSPs to carry out non-network alternatives.

It is expected that the primary source of a DNSP's recovery for demand management expenditure in a distribution determination will be the forecasts of operating and capital expenditure approved under clauses 6.5.6 and 6.5.7 of the NER.

The demand management innovation allowance is designed to complement the approved capital and operating expenditure, by facilitating investigation of additional demand management strategies that, if they prove to be viable, will allow DNSPs to implement efficient non-network alternatives or to manage the expected demand for standard control services.

The results of the scheme, in terms of demand management programs undertaken by DNSPs, will be considered by the AER throughout the 2010–15 regulatory control period, and an assessment of the scheme will be made when considering the AER's application of demand management incentive schemes for the 2015–20 regulatory control period.

3.1 Operation of the demand management innovation allowance

This section sets out how the demand management innovation allowance will operate. The calculation of the allowance, and worked examples, are provided in Appendix A.

3.1.1 Step 1 - Amount of the demand management innovation allowance

The total amount recoverable under the demand management innovation allowance within a regulatory control period will be capped at an amount that is broadly proportionate to the relative size of the DNSP's annual revenue requirement in the previous regulatory control period. It is expected that the amount provided under the scheme will allow DNSPs to conduct a number of broad based or peak demand management projects and programs over the regulatory control period.

3.1.2 Step 2 - Access to the demand management innovation allowance

The DMIS will take the form of an annual ex ante allowance provided as a fixed amount of additional revenue at the commencement of each regulatory year of the regulatory control period.

The total amount of the allowance will be distributed evenly across each year of the regulatory control period.

Within the regulatory control period the DNSP has the flexibility to select an expenditure profile that suits its needs. However, the total amount recoverable over the five years will not exceed the total amount of the allowance determined in step 1.

3.1.3 Step 3 - Approval of expenditure under the demand management innovation allowance

At the end of each regulatory year of the regulatory control period, the AER will conduct an ex post assessment of expenditure incurred by the DNSP in the preceding regulatory year.[6] As a result of this assessment, expenditure will be either approved or rejected against the criteria established in the scheme. The total amount of expenditure approved by the AER over the five year regulatory control period will not exceed the total amount of the allowance determined in step 1.

3.1.3.1 Approval criteria

Projects and programs eligible for approval under the scheme must meet the following criteria:

- demand management projects or programs claimed under the scheme should be innovative, and target broad-based and/or peak demand reductions
- recoverable projects and programs may be tariff or non-tariff based
- costs recovered under the scheme must not be recoverable under any other jurisdictional incentive scheme
- costs recovered under the scheme must not be recovered under any other state or Commonwealth government scheme
- costs recovered under the scheme must not be recovered under forecast capital or operating expenditure approved in a distribution determination, or under any other incentive scheme in that determination

3.1.3.2 Annual reporting and application for ex post approval

Applications for ex post approval of expenditure under the demand management innovation allowance will be assessed annually at the time of the DNSP's service target performance incentive scheme (STPIS) review.

At the time of its annual STPIS review, a DNSP to which this scheme applies must submit to the AER, in a form suitable for publication, a report which includes:

- the total amount of the demand management innovation allowance spent in the previous regulatory year and how this has been calculated.

[6] The AER's ex-post review will take place once audited data becomes available for the previous year.

- an overview of each demand management project or program for which ex post approval is sought, setting out the features of the program, and demonstrating compliance with the criteria listed in section 3.1.3.1 above, with reference to:
    - the aims of the demand management project or program
    - the implementation of the project or program
    - the implementation costs of the project or program, including a demonstration that the costs incurred represent prudent and efficient expenditure
    - benefits arising from the project or program
- a statement certifying that the costs of the demand management program have not been recovered under another element of the distribution determination, including under another scheme applied under that determination, or any other jurisdictional incentive scheme or state or Commonwealth scheme.
- an overview of developments in relation to projects or programs completed in previous years of the regulatory control period, and of any results to date.

A report must be submitted at the end of every regulatory year of the regulatory control period. Where a project or program extends across more than one year of the regulatory control period, and is not complete at the time an annual report must be submitted, a report on expenditure and progress to date will be required. Where no projects or programs have been undertaken in a particular year, the report must state this, and must provide an explanation as to why this is the case.

The AER will require that this formal application for cost recovery is made public.

At the completion of the annual review, the AER will publish the amount of any approved expenditure, and its reasons for approving, or not approving expenditure under the demand management innovation allowance. The AER will also indicate the amount of allowance remaining (in nominal terms) for the regulatory control period, which will allow DNSPs and other interested parties to observe progress under the scheme as the regulatory control period progresses.

This annual assessment has no impact on revenue recoverable within the relevant regulatory control period: the DNSP will receive the annual allowance determined in step 2 in each year. As explained in section 3.1.4 below, once the regulatory control period commences, the only potential revenue adjustment under the scheme takes place in the fourth step of the process, in a once-off adjustment to allowed revenues in the second year of the subsequent regulatory control period.

3.1.4 Step 4 - Final year adjustment

Once data becomes available for the final year of the regulatory control period, the AER will calculate a total carryover amount on the basis of the annual assessments in step 3 to account for:

- any amount of allowance unspent or not approved over the regulatory control period; and

- the time value of money accrued / lost as a result of the expenditure profile selected by the DNSP.

As information on the final year of the regulatory control period will not be available in time to be incorporated into the AER's distribution determination, the final carryover amount will be deducted from (added to) allowed revenues in the second year of that period.

The final year adjustment is calculated to ensure the DNSP will be indifferent (in NPV terms) to the expenditure profile approved by the AER over the regulatory control period. This removes any incentive for the DNSP to defer/frontload expenditure. For the purposes of the NPV calculation, the AER will use the nominal vanilla weighted average cost of capital (WACC) approved for the relevant regulatory control period in its distribution determination.

3.2 Relevant Determinations

This proposed demand management incentive scheme has been developed to apply in the distribution determinations for Energex, Ergon Energy and ETSA Utilities for the regulatory control period, commencing 1 July 2010.

Any application of the scheme to other DNSPs or in other distribution determinations will be subject to further consultation.

3.3 Assessment of the scheme

The operation of the scheme will be considered by the AER throughout the regulatory control period 2010–15, and an assessment of the scheme will be made when considering the AER's application of demand management incentive schemes for the regulatory control period 2015–20.

Appendix A

This appendix provides a number of worked examples of the operation of the demand management innovation allowance, as described in section 3.1 of this scheme.

Step 1 Amount of the demand management innovation allowance

Assume, for the purposes of the examples below, that a DNSP is granted a total demand management innovation allowance of $5 million ($nominal) over a five year regulatory control period.

Step 2 Access to the demand management innovation allowance

This $5 million allowance will be provided in five, equal instalments of $1 million — one in each regulatory year of the regulatory control period. The amount spent under the demand management innovation allowance in any one year is at the discretion of the DNSP, however the total amount recoverable over the five years cannot exceed $5 million. That is, the DNSP has the flexibility to select an expenditure profile that suits its circumstances, subject to remaining within the approved cap.

Step 3 Approval of expenditure under the demand management innovation allowance

At the end of each year of the regulatory control period the AER will conduct an ex-post assessment of expenditure incurred by the DNSP in the preceding year, in accordance with section 3.1.3.2 of this scheme. Expenditure will be either approved or rejected based on an assessment against the criteria in the scheme. The total amount of expenditure approved by the AER over the five year regulatory control period will not exceed $5 million.

Step 4 Final year adjustment

Once data becomes available for the final year of the regulatory control period, the AER will calculate a carryover amount to account for:

- any amount of allowance unspent or not approved over the period; and
- the time value of money accrued / lost as a result of the expenditure profile selected by the DNSP.

The final carryover amount will be deducted from (added to) allowed revenues in the second year of the subsequent regulatory control period.[7] The adjustment will be calculated to ensure the DNSP is indifferent (in NPV terms) to the expenditure profile approved by the AER over the regulatory control period. This removes any incentive for the DNSP to defer / frontload expenditure.

[7] The final carryover will not affect allowed revenues until year two of the subsequent regulatory control period due to pricing considerations. The carryover amount therefore includes an adjustment to account for the time value of money in the first year of the subsequent regulatory control period (at the nominal vanilla WACC set in the distribution determination for that period).

Calculating the carryover amount

The cumulative carryover balance for each year of the five-year regulatory control period (C_t) is calculated as follows:

$$C_t = C_{t-1} - \left[\frac{(R_t - A_t)}{(1+i)^t} \times (1+i)^5 (1+i^*)^2 \right]$$

Where:

R_t = ex-ante revenue allowance under the scheme for year 't' (t = 1,2,…,5)

A_t = ex-post expenditure approved under the scheme for year 't' (t = 1,2,…,5)

i = nominal vanilla WACC as set in the distribution determination for the forthcoming regulatory control period

i^* = nominal vanilla WACC as set in the distribution determination for the subsequent regulatory control period

At the end of the regulatory control period, the AER will calculate a carryover amount to be deducted from (added to) allowed revenues in year two of the subsequent regulatory control period.

The year 5 carryover amount (C_5) to be deducted from (added to) allowed revenues in year 2 of the subsequent regulatory control period is calculated as follows:

$$C_5 = C_4 - \left[\frac{(R_5 - A_5)}{(1+i)^5} \times (1+i)^5 (1+i^*)^2 \right]; \text{ or}$$

$$C_5 = C_4 - \left[(R_5 - A_5) \times (1+i^*)^2 \right]$$

The amount of the final carryover (C_5) is calculated so as to ensure that the DNSP is revenue neutral (ie. $NPV = 0$) to the profile of expenditure approved by the AER over the five-year regulatory control period.[8] In other words, the amount of the final carryover is such that:

$$NPV = \frac{(R_1 - A_1)}{(1+i)} + \frac{(R_2 - A_2)}{(1+i)^2} + \frac{(R_3 - A_3)}{(1+i)^3} + \frac{(R_4 - A_4)}{(1+i)^4} + \frac{(R_5 - A_5)}{(1+i)^5} + \frac{C_5}{(1+i)^5 (1+i^*)^2} = 0$$

Worked examples

Figures A.1 – A.4 below illustrate the operation of the demand management innovation allowance under various expenditure profiles, in accordance with steps 1 – 4 above. The examples assume:

[8] This includes an adjustment to account for the time value of money in the first two years of the subsequent regulatory control period, given the assumption the cash flows occur at the end of each year.

- ex-post reviews undertaken by the AER at the end of each year of the regulatory control period,
- a nominal vanilla WACC of 10% for the first regulatory control period (i = 0.10), and
- a nominal vanilla WACC of 9% for the second regulatory control period (i* = 0.09).

Figure A.1: Spend full allowance each year

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	**Totals**
Ex ante allowance	1.0	1.0	1.0	1.0	1.0			**5.0**
Actual expenditure	1.0	1.0	1.0	1.0	1.0			**5.0**
Ex post expenditure approved	1.0	1.0	1.0	1.0	1.0			**5.0**
Ex post expenditure disallowed	0.0	0.0	0.0	0.0	0.0			**0.0**
Cumulative carryover balance	0.00	0.00	0.00	0.00	0.00			
Adjustment to revenues							0.00	
NPV to DNSP	0.00	0.00	0.00	0.00	0.00		0.00	**0.00**

In figure A.1, the DNSP spends $1 million on demand management initiatives in each year of the regulatory control period, all of which is approved by the AER. As the approved expenditure profile matches the ex-ante revenue allowance, there is no net benefit / detriment to the DNSP at the end of the period (ie. $NPV = 0$), and therefore zero carryover to the subsequent regulatory control period.

Figure A.2: Spend in excess of full allowance with variable profile

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	**Totals**
Ex ante allowance	1.0	1.0	1.0	1.0	1.0			**5.0**
Actual expenditure	2.0	1.0	0.0	2.0	1.0			**6.0**
Ex post expenditure approved	1.5	1.0	0.0	2.0	0.5			**5.0**
Ex post expenditure disallowed	0.5	0.0	0.0	0.0	0.5			**1.0**
Cumulative carryover balance	0.87	0.87	-0.57	0.74	0.14			
Adjustment to revenues							0.14	
NPV to DNSP	-0.45	0.00	0.75	-0.68	0.31		0.07	**0.00**

In figure A.2, the DNSP spends different amounts on demand management initiatives in each year of the regulatory control period. For example in year 1:

- the DNSP receives $1 million in its ex-ante revenue allowance;
- the DNSP spends $2 million on demand management initiatives; and
- as a result of the ex-post review at the end of year 1, the AER approves $1.5 million, but disallows $0.5 million of expenditure.

The net present value of expenditure approved against the ex-ante allowance (ie. 'NPV to DNSP') for year 1 is calculated as follows:

$$NPV_1 = \frac{(R_1 - A_1)}{(1+i)}; \text{ or}$$

$$NPV_1 = \frac{(1.0 - 1.5)}{(1+0.10)} = -0.45$$

The cumulative carryover balance for year 1 (C_1) is calculated as follows:

$$C_1 = C_0 - \left[\frac{(R_1 - A_1)}{(1+i)} \times (1+i)^5 (1+i^*)^2 \right]; \text{ or}$$

$$C_1 = 0 + 0.47 \times (1+0.10)^5 \times (1+0.09)^2 = 0.87$$

In year 5 of the regulatory control period, the DNSP spends $1 million, however the AER disallows $0.5 million as it exceeds the $5 million cap.

The final carryover amount (C_5) to be added to allowed revenues in year 2 of the subsequent regulatory control period is calculated as follows:

$$C_5 = C_4 - \left[(R_5 - A_5) \times (1 + i^*)^2\right]; \text{ or}$$

$$C_5 = 0.74 - \left[(1.0 - 0.5) \times (1 + 0.09)^2\right] = \$0.14 million$$

Figure A.3: Spend zero allowance

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	**Totals**
Ex ante allowance	1.0	1.0	1.0	1.0	1.0			**5.0**
Actual expenditure	0.0	0.0	0.0	0.0	0.0			**0.0**
Ex post expenditure approved	0.0	0.0	0.0	0.0	0.0			**0.0**
Ex post expenditure disallowed	0.0	0.0	0.0	0.0	0.0			**0.0**
Cumulative carryover balance	-1.74	-3.32	-4.76	-6.07	-7.25			
Adjustment to revenues							-7.25	
NPV to DNSP	0.91	0.83	0.75	0.68	0.62		-3.79	**0.00**

In figure A.3, the DNSP elects not to utilise the ex-ante allowance in any year of the regulatory control period. The DNSP continues to receive the $1 million allowance in its revenues, however at the end of the period the AER will deduct the full $5 million allowance, after adjusting for the time value of money. The final carryover amount (C_5) to be deducted from allowed revenues in year 2 of the subsequent regulatory control period is calculated as follows:

$$C_5 = C_4 - \left[(R_5 - A_5) \times (1 + i^*)^2\right]; \text{ or}$$

$$C_5 = -6.07 - \left[(1.0 - 0.0) \times (1 + 0.09)^2\right] = -\$7.25 million$$

The amount of the final carryover (C_5) is calculated so as to ensure that the DNSP is revenue neutral (ie. $NPV = 0$) to the profile of expenditure approved by the AER over the five-year regulatory control period. In other words, the amount of the final carryover is such that:

$$NPV = \frac{(R_1 - A_1)}{(1+i)} + \frac{(R_2 - A_2)}{(1+i)^2} + \frac{(R_3 - A_3)}{(1+i)^3} + \frac{(R_4 - A_4)}{(1+i)^4} + \frac{(R_5 - A_5)}{(1+i)^5} + \frac{C_5}{(1+i)^5(1+i^*)^2} = 0$$

$$NPV = \frac{1.0}{(1.10)} + \frac{1.0}{(1.10)^2} + \frac{1.0}{(1.10)^3} + \frac{1.0}{(1.10)^4} + \frac{1.0}{(1.10)^5} - \frac{7.25}{(1.10)^5(1.09)^2} = 0$$

Figure A.4: Spend full allowance in final year

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	**Totals**
Ex ante allowance	1.0	1.0	1.0	1.0	1.0			**5.0**
Actual expenditure	0.0	0.0	0.0	0.0	5.0			**5.0**
Ex post expenditure approved	0.0	0.0	0.0	0.0	5.0			**5.0**
Ex post expenditure disallowed	0.0	0.0	0.0	0.0	0.0			**0.0**
Cumulative carryover balance	-1.74	-3.32	-4.76	-6.07	-1.31			
Adjustment to revenues							-1.31	
NPV to DNSP	0.91	0.83	0.75	0.68	-2.48		-0.69	**0.00**

In figure A.4, the DNSP defers its expenditure until the final year of the regulatory control period. As a result of the ex-post review at the end of year 5, the AER approves $5 million of expenditure by the DNSP on demand management initiatives. In this example the AER will deduct an amount of $1.31 million from allowed revenues in year 2 of the subsequent regulatory control period to remove the time value of money accrued as a result of the expenditure profile selected by the DNSP.