



Decision

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**Electricity Distribution:  
Valuation of Easements**

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*March 2004*



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## 1. INTRODUCTION

The Queensland Competition Authority is the jurisdictional regulator of electricity distribution prices for Queensland distribution network service providers (DNSPs). The National Electricity Code (the Code) provides guidance regarding the issues that must be considered before distribution prices can be approved. A major element to be considered in the calculation of distribution prices is the value of assets - the process of asset valuation determines the regulatory asset base.

The Authority's Final Determination on the Regulation of Electricity Distribution (QCA 2001) set the regulatory framework for 1 July 2001 to 30 June 2005. As part of this process, the Authority adopted a Depreciated Optimised Replacement Cost (DORC) method to value the majority of assets employed in producing the DNSPs' prescribed distribution services. At that time, the Authority acknowledged the unusual characteristics of easements compared to the majority of the DNSPs' assets and indicated that easements should be subject to further consideration. The Authority also noted the potential impact of changing easement valuation methods from past practices, noting that moving from the current historical cost valuation of easements to a DORC valuation could raise asset values initially and hence impact on distribution prices.

The Authority was also of the view that the unilateral adoption by the Authority of a DORC value for easements, in circumstances where no other Australian jurisdiction at that time used this approach, had the potential to distort relative distribution prices across jurisdictions and this may have unintended economic consequences due to the price signals it would send.

Accordingly, for the purposes of the Final Determination, easements were valued at historical cost. However, the Authority indicated that further work would be undertaken to establish an appropriate long term approach to the valuation of easements.

In April 2003, the Authority released a Discussion Paper *Electricity Distribution: Valuation of Easements* ('the Discussion Paper') and sought comments from interested parties by 30 May 2003.

Ten submissions were received in response to the Discussion Paper, from the following organisations:

- Energex;
- Ergon Energy Corporation Ltd (Ergon Energy);
- Ergon Energy Pty Ltd (Ergon Energy Retail);
- Origin Energy;
- Powerlink Queensland;
- Queensland Office of Energy;
- Queensland Rail;
- Queensland Treasury;
- SPI Powernet; and
- TXU.

This document outlines:

- the key issues raised in submissions; and
- the Authority's analysis of the issues and its decision.

The Discussion Paper and the submissions received are available from the Authority's website at [www.qca.org.au](http://www.qca.org.au)

## 2. STAKEHOLDERS' PREFERRED VALUATION OPTIONS

In its Discussion Paper, the Authority proposed the following four potential easement valuation options:

- historical cost;
- historical cost, indexed for inflation;
- market value of the land on which the easement sits; or
- zero value (assuming easements represent a sunk cost).

Stakeholders were also encouraged to make comment on any alternative options they considered warrant further consideration.

### 2.1 Stakeholders' Preferred Options

None of the submissions proposed alternative valuation options to those put forward in the Discussion Paper.

Eight of the ten submissions explicitly nominated one of the proposed easement valuation options:

- Origin Energy nominated a continuation of the current historical cost valuation approach;
- TXU, Queensland Treasury and the Office of Energy nominated the indexed historical cost approach; and
- Energex, Ergon Energy, Powerlink Queensland and Queensland Rail nominated a market value approach. However, Ergon Energy and Powerlink Queensland indicated that, where practical difficulties arise in implementing this method, it may be necessary to implement an indexed historical cost approach.

Ergon Energy Retail was indifferent between the application of historical cost and indexed historical cost approaches.

SPI Powernet focussed on issues in relation to how the alternative valuation approaches might be implemented.

While the Authority appreciates receiving all submissions, some of the issues raised were not relevant to the current review, which is concerned specifically with the choice of easement valuation approach for use by the Authority in the next regulatory period.

### 2.2 Historical Cost

There was limited support for historical cost valuation of easements.

Origin Energy argued that easement valuation should be at historical cost without indexing because to allow for indexation of easement values effectively provides a double benefit to the DNSP, since an allowance for inflation is implicit in the Authority's calculation of the DNSPs' Aggregate Annual Revenue Requirements. However, the Authority's revenue calculation explicitly takes account of capital gains due to inflation. These capital gains form part of the allowed return on capital, and are offset against it when determining the maximum allowable

revenue requirement for pricing purposes each year. Therefore, the use of indexed historical values would not lead to the double benefit Origin Energy was concerned about.

While Origin Energy acknowledged the need to preserve the purchasing power of the DNSPs investment, it suggested that it was not clear that as a special class of asset, easements should be subject to such preservation.

Ergon Energy Retail supported the application of the historical cost or indexed historical cost approach. However, it argued that, irrespective of the valuation method, there should be no price shocks faced by customers. Accordingly, any increase in easement values resulting from the application of a particular method may need to be phased in over an appropriate period.

Energex suggested that historical cost valuation of easements was not based on any economic principle and that it did not reflect the opportunity cost of holding easement assets. Energex argued that the failure of historical cost to reflect the opportunity cost of holding the asset may potentially give Energex the incentive to buy land rather than easements if land purchases are valued on a different (DORC) basis.<sup>1</sup>

Energex also noted that historical valuation of easements may be complicated by a lack of information regarding the purchase price of easements and uncertainty about past acquisition policies.

The Office of Energy criticised historical cost valuation on the grounds that the amount invested historically in non-depreciating assets does not reflect the real level of investment due to the reduced purchasing power of money.

### 2.3 Indexed Historical Cost

The indexed historical cost approach received some support, with TXU, Queensland Treasury and the Office of Energy explicitly nominating this approach with conditional support (as a second-best option) from Powerlink Queensland and Ergon Energy. The main advantages of the indexed historical cost valuation approach identified were that:

- it is simple to calculate;
- it is transparent;
- it conforms to current asset roll-forward methods;
- it is consistent with the concept of economic value;
- it recognises the amount of cash invested in the business in current dollars and provides compensation to the owner;
- it provides adequate incentives to ensure efficient future investment decisions are made; and
- it is consistent with regulatory decisions by different regulators in jurisdictions throughout Australia.

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<sup>1</sup> Under the current regulatory arrangements, Energex's land is valued at its market value, while Ergon Energy's land is valued at its unimproved capital value.

Powerlink Queensland suggested that, where a DORC valuation cannot be considered due to potential price shocks for customers, indexed historical cost valuation provided a second-best solution.

Similarly, Ergon Energy suggested that, while DORC was its preferred valuation approach, where there was difficulty in the provision of data necessary to facilitate a DORC valuation, it may be necessary to use an indexed historical cost valuation, as it provides the next best alternative.

Energex argued that indexed historical cost valuation would go some way to equating a recorded asset value with a competitive market value. However, Energex suggested that, while indexing could maintain purchasing power, it does not necessarily provide correct investment signals where the asset market price is well above or below the indexed value.

Energex also noted that indexed historical valuation of easements would suffer from the same data difficulties as historical cost valuation and that indefinite indexation was not considered sound accounting practice.

## 2.4 Market Value

There was some support for the market valuation of easements. Ergon Energy, Energex, QR, and Powerlink Queensland explicitly identified this approach as their preferred option.

These submissions suggested that a market valuation (DORC valuation) of easements was preferable since it reflected the true opportunity cost of holding easement assets. Energex argued that the method would therefore remove any potential discouragement to invest in easements due to an artificially low valuation.

Some parties suggested that easements are not unlike other network assets which are currently valued using a DORC approach. Energex noted that land is not subject to depreciation but is still valued using a DORC approach. Similarly, other assets that have limited alternative use (for example, substations, where the investment is relatively immovable and thus effectively sunk) are still valued using DORC. Energex also suggested that easements could have considerable alternative economic use once the restriction on the land (the easement) was removed.

Ergon Energy suggested that the absence of an open market for easements does not deny the differential in value to a land-owner of having any encumbrance removed. This value could be determined by measuring the difference in value between encumbered and unencumbered land.

Energex argued that any price shock from moving to a DORC valuation was likely to be minimal in the context of final prices for electricity users (since the distribution charge is only one component of the final electricity price) and could be reduced through transitional measures such as smoothing. Ergon Energy pointed out that the avoidance of price shocks is not a valid reason for a departure from DORC valuation or for choosing any valuation method but rather a transitional issue to be handled accordingly.

Proponents of the market valuation approach argued that subjectivity and costliness associated with market valuation could be overcome by "valuation experts". In any case, Energex suggested that a subjective value that at least reflected true value was preferable to a historical cost valuation that has no relationship to current value.

Similarly, it was not clear to Energex that receiving a return based on the market value was a windfall gain since a market valuation represents the price that a new entrant would face in acquiring a similar asset.

Ergon Energy argued that acceptance that there may be practical difficulties in obtaining data is not necessarily a reason for a departure from applying a DORC valuation, but rather recognition that the method may not be practical in such circumstances.

A number of disadvantages of the market valuation approach were also identified in submissions. These included that:

- where an easement is no longer required there is generally no alternative use for the easement (Queensland Treasury);
- the opportunity cost of an easement is difficult to observe because it has limited alternative economic use (TXU);
- the market for easements is complicated not only by the limited alternative uses of easements, but also because of its single seller and single buyer (the landowner) nature (Origin Energy);
- a linkage between land value and easement value should not be automatically assumed because the easement does not represent ownership (Office of Energy); and
- there is no directly observable market for easements from which to obtain a market value (Office of Energy).

Further, it was suggested that a market value that leads to windfall gains to network owners will deliver access prices in excess of the efficient long-run costs of supply and will therefore be inefficient (TXU). It was also argued that valuing easements at market value may introduce price shocks for consumers (TXU, Powerlink Queensland).

To the extent that a market valuation can be derived, it was argued that it is likely to be subjective and costly to obtain.

A number of submissions offered practical market valuation methods:

- the Office of Energy suggested the use of the unimproved value of similar land with and without easements where the difference in value between the two represents the value of the easement; and
- Energex suggested a number of possible approaches to deriving the market value of easements, such as using land values for a range of areas, comparisons with easement prices paid by a range of organisations, and land court precedents on the appropriate compensation payable for easements.

## 2.5 Zero Value

None of the submissions supported a zero valuation of easements. It was argued that such an approach:

- would not provide adequate compensation to the asset owner (Powerlink Queensland);
- created poor incentives for future investment (Ergon Energy Retail);
- had no basis in theory (Energex); and
- did not represent the opportunity cost of the asset (Energex).

## 2.6 Other Issues

A number of other issues were raised in submissions. These largely reflected issues associated with the implementation of the preferred valuation approach, such as:

- the inclusion of transaction costs and the valuation of those costs in the absence of records;
- determining appropriate proxies where the historical cost is not available or there are gaps in the data; and
- the appropriate index for any indexation required.

Issues were also raised concerning the potential pressure on regulated tariffs generated from a change in valuation method and the potential inability to pass-through these costs through retail service providers to end customers.

Whilst these issues have merit, they are largely issues to be addressed once the appropriate valuation method has been decided.

### 3. RECENT EXPERIENCE IN THE VALUATION OF EASEMENTS

In its consideration of valuation issues for NSW distribution networks, IPART's approach to the valuation of easements was similar to that subsequently adopted by the Authority. IPART (1999a) observed that easements generally apply in perpetuity and are rarely replaced. IPART concluded that, due to current uncertainty in relation to the regulatory treatment of easements, they should be included at their historical cost rather than replacement cost. This was in contrast to the remainder of the asset base, which was valued at DORC. IPART noted that there would be no economic benefit in including a market value for existing easements in the initial asset base. Further, IPART indicated that the resultant price shock from applying a market valuation would be unacceptable.

The ACCC (2000) quoted a report from consultants SKM, which noted that easements were granted in perpetuity and therefore did not need to be replaced or depreciated and that, if an easement was extinguished, there would be very little if any value recovered by the business. SKM stated that these characteristics meant that it could be argued that the use of deprival value (including DORC concepts where the value of the easement is based upon the market value of the property over which it sits) would be inappropriate in its application to this class of asset, particularly in the context of how a regulator should treat the issue of 'windfall' gains to the network generated by increases in the underlying property values. The ACCC indicated that a market valuation of such assets may serve to provide network owners with windfall gains which did not necessarily reflect the risk-adjusted cash flow rate of return appropriate to the efficient operation of the business.

The ACCC went on to note that its preferred approach to easements was to rely on DORC/optimised deprival value, in line with the value of the loss of amenity and consistent with their approach to the remainder of the asset base. However, the ACCC ultimately concluded that in balancing the need for an adequate return on investment and the desirability of avoiding price shocks, easements should be included at their historical purchase cost, adjusted for subsequent price inflation. The ACCC indicated it would give further consideration in the future to the merit of allowing a transition to a properly established deprival value approach for easements. However, the ACCC was of the view that the valuation method should not give rise to windfall gains.

In arriving at its decision on a pricing proposal by Sydney Airport Corporation Limited (SACL), the ACCC (2001) conducted a similar assessment of the market value and historical cost approaches to valuation of land (as opposed to easements) in relation to Sydney Airport. While not addressing easement valuation per se, the issues raised here were similar in that a valuation was being sought for a restricted type of land use not often traded. In its *Revised Draft Aeronautical Pricing Proposal* (2000) submitted to the ACCC, the SACL proposed the valuation of aeronautical land by estimating the site's market value in its best alternative use. SACL supported this approach by arguing that the market value captures the opportunity cost of the land and sends the right signals for using the land and investing in land.

In response, the ACCC concluded that it was not persuaded that the SACL had arrived at a reasonable measure of opportunity cost. In light of difficulties in identifying and quantifying opportunity cost, the ACCC went on to consider the historical cost of the land as an alternative basis for valuing the site. The ACCC noted that, although it has not adopted an historical cost approach in valuing assets, instead favouring valuations based on DORC, the problems usually associated with historical valuation tended not to arise in relation to land.

In comparing the merits of historical cost and SACL's proposed approach, the ACCC decision also considered the efficiency signals generated by the proposed land valuation in terms of use of the land, signals for relocation of the airport and signals for new investment. It concluded

that there was no evidence to suggest that SACL's proposals would send better signals and, in particular, that historical cost valuation of land provided appropriate signals for land purchases.

In its recent decision on the Gladstone Area Water Board (GAWB), the Authority (2002) recommended that historical cost, indexed for inflation, be adopted for valuing land and easements. In arriving at that decision, the Authority noted the lack of historical records distinguishing land from easements and the generally accepted view that easements represented only a very small portion of such holdings.

In its *Draft Decision on Victorian Transmission Network Revenue Caps 2003-2008*, the ACCC (2002) valued easements on the basis of historical cost indexed by CPI. In coming to this conclusion, the ACCC cited the similar treatment of easement valuations in previous ACCC decisions, such as the NSW and ACT (ACCC (2000)) and Queensland (ACCC (2001a)) transmission network revenue cap decisions. The ACCC acknowledged that the valuation methodology did not run in parallel with the replacement value approach advocated in the *Draft Statement of Principles for the Regulation of Transmission Revenues* (ACCC (1999)) and in previous ACCC decisions. The ACCC indicated that it may be considered somewhat simplistic to simply postulate that network companies should value easements using a pure replacement cost approach, simply because this is consistent with the deprival valuation philosophy used for valuing other network assets. The ACCC stated that such an approach ignores the very significant economic differences between easements and other physical transmission network assets such as lines, substations and land.

Similarly, in its *Decision on the South Australian Transmission Network Revenue Cap 2003-2007/08*, the ACCC (2002a) stated that it considered it inappropriate to value easements at deprival value. The ACCC indicated that this decision was based on theoretical considerations, such as the appropriateness of the deprival value methodology given the special characteristics of easements and practical considerations, such as the reasonableness of returns to network providers. The Commission concluded that it preferred to value easements at actual costs suitably indexed for timing differences.

In its recent Discussion Paper on the *Review of the Draft Statement of Principles for the Regulation of Transmission Revenues*, the ACCC (2003) indicated that easements exhibit a number of unique characteristics relative to other transmission network assets, including:

- there does not appear to be a market in which easements are sold or traded;
- there are clear restrictions regarding how easements may be used by potential acquirers;
- the determination of replacement costs according to the deprival value to the land owner over which an easement sits appears inappropriate given that it represents the land owner's deprival value, not that of the easement owner;
- the applicability of depreciating easements and the question of assigning a depreciation schedule;
- the fact that easement acquisition is backed by compulsory acquisition legislation and means that valuations which assume free negotiation between two parties in a market could produce inaccurate results; and
- there is potential for large errors given the subjectivity involved in valuing easements.

The ACCC concluded that it may be inappropriate to value easements according to the DORC methodology and that it preferred the adoption of an historical cost approach.

#### 4. QCA ANALYSIS AND DECISION

The Authority agrees with Ergon Energy that the valuation approach should, in the first instance, be founded on economic fundamentals. Practical difficulties that may arise as a result of applying a particular valuation, such as price shocks, should be addressed once the appropriate valuation approach has been determined rather than dictate the valuation approach to be applied.

As Energex noted, the objective of the valuation process is to arrive at the opportunity cost of holding assets or, in other words, to determine the current worth of assets.

For regulatory purposes, the asset valuation process is integral to the determination of prices. These prices should encourage efficient network usage in the short-term and efficient investment in the medium to long-term. They should also allow the regulated entity to earn a revenue stream that is sufficient to ensure it continues to provide the required service capability of the network.

The Authority accepts that market value provides the best estimate of the value of an asset, as it reveals the opportunity cost of holding the asset. However, for many regulated assets, particularly system assets, it is not possible to observe a market value as the assets are seldom traded, if traded at all. Furthermore, there is the circularity problem that exists with the use of market values which are based on prices set by reference to those same market values. Therefore, regulators are forced to determine a “second best” or surrogate measure of value.

While historic cost or historic cost indexed by inflation are possible surrogates, in general they do not reflect the impact that competitive markets have on the means of service delivery, and hence the value of the assets which provide the relevant service potential. Competition encourages innovation and alternative means of service delivery. Optimisation of the asset in terms of its construction and configuration address this aspect in the determination of an appropriate surrogate. Furthermore, in a competitive market, market value will broadly equate with DORC as DORC represents the cost at which a competitor could enter the market. It is in this context that DORC has been adopted when there is no available market value.

To establish a value for an easement, it is first necessary to establish exactly what is being valued and then the most appropriate means of estimating its value.

As stated in the Authority’s Discussion Paper, easements are rights acquired over land for a specific purpose. In the case of electricity distribution, a registered easement is a right to construct, operate and maintain a power line and does not involve ownership of the land over which the line passes.

Therefore, the value of the easement needs to be clearly separated from the opportunity cost associated with owning the land over which the easement passes. The holder of the easement will not necessarily benefit from changes in the value of the land over which the easement passes (or surrounding land) because the narrow easement right does not entitle it to share in such benefits. Any such benefits accrue solely to the landowner. Similarly, any benefit that might result from the greater use which could be made of land freed of easement restrictions would not accrue to the holder of the easement, but to the landowner. The ACCC (2003) arrived at a similar conclusion in considering means for estimating a deprivation value for easements. The Office of Energy also made this point in its submission.

It would be inappropriate to assign a value to an easement that reflected a landowner’s rights, rather than the rights attaching to the easement, given the completely different nature of the respective rights.

At the same time, the value of an easement may have a relationship with the value of the land over which it passes, as the easement diminishes the amenity of the land and this may be related to the value of the land. However, it is unlikely to be a clear or constant relationship.

Ergon Energy and the Office of Energy suggested that an easements value could be established by observing the difference in land values with and without an easement. Given the lack of a market for land with and without easements, together with the fact that easements are location specific, there is unlikely to be sufficient evidence on which to make a judgement in the particular circumstances of a particular easement. In addition, the fact that easements are compulsorily acquired further complicates the matter.

As noted by the ACCC (2003) and Lim & Co and Headberry Partners (2002), the easement right is narrowly defined such that the easement cannot be used for other purposes. While it may be possible for the holder of an easement to sell the easement to another person, this would only be for the continued use of the easement for the specific purpose for which it was originally granted. As a result, there are likely to be very few, if any, potential buyers of an easement held by a monopoly service provider. Several submissions (Queensland Treasury, TXU and Origin) made similar observations.

In general, easements only have value in their continued use, and there is no capacity to sell “surplus” easements. Accordingly, optimisation is generally not a particularly meaningful concept for easements.

In summary, therefore, it is not possible to reasonably determine a market value for easements. Furthermore, so far as determining a DORC is concerned, easements generally do not depreciate in value, there is no meaningful capacity for optimisation and it is difficult to determine a replacement cost other than by reference to the historic circumstances of the particular easement.

The Authority therefore proposes to value easements for regulatory purposes on the basis of their historical acquisition cost maintained in real terms. Adopting an indexed historical cost approach will:

- maintain the incentive for the distributors to continue to invest in easements by ensuring that the real value of their past and future acquisitions are preserved over time;
- not create an incentive for inefficient by-pass of the regulated network; and
- result in easement values at least being consistent with the real values for all other distribution assets and also with the allowable expenses and revenues under the regulatory arrangements, including the costs associated with maintenance of, and access to, the easements.

For indexation purposes the Authority considers that use of the CPI provides a reasonable proxy for inflation to take account of the time value of money.

## 5. REFERENCES

ACCC (1999), Draft Statement of Principles for the Regulation of Transmission Revenues, May 1999.

ACCC (2000), NSW and ACT Transmission Network Revenue Caps 1999/00-2003/04 – Decision, January 2000.

ACCC (2001), Sydney Airports Corporation Limited Aeronautical Pricing Proposal – Decision, May 2001.

ACCC (2001a), Queensland Transmission Network Revenue Caps 2002-2006/07 – Decision, November 2001.

ACCC (2002), Victorian Transmission Network Revenue Caps 2003-2008 – Draft Decision, September 2002.

ACCC (2002a), South Australian Transmission Network Revenue Cap 2003-2007/08 – Decision, December 2002.

ACCC (2003) Draft Discussion Paper *Review of the Draft Statement of Principles for the Regulation of Transmission Revenues*

IPART (1999), Aspect of the NSW Rail Access Regime – Final Report, April 1999.

IPART (1999a), Regulation of New South Wales Electricity Distribution Networks – Determination and Rules Under the National Electricity Code, December 1999.

Lim & Co & Headberry Partners (2002), Energy Transmission Easements – A Commentary on Valuation used by Transmission Companies and Regulators, July.

QCA (2001), Regulation of Electricity Distribution – Final Determination, May 2001.

QCA (2002), Gladstone Area Water Board: Investigation of Pricing Practices – Final Report, September 2002.