

Powerco Limited

Review of Asset Valuation Methodologies

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11 November 2002

Mr Steven Boulton
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Dear Steve

**SUBMISSION ON THE COMMERCE COMMISSION'S DISCUSSION PAPER:
REVIEW OF ASSET VALUATION METHODOLOGIES (OCTOBER 2002)**

Attached is our response to our review of the Commerce Commission's discussion paper on the review into the asset valuation methodology for electricity lines businesses' system fixed assets.

We conclude that market value remains the fair valuation for a business subject to regulation such as the Thresholds Regime that is under consultation by the Commerce Commission. The Commission is currently consulting on a regulatory methodology for the valuation of the system fixed assets of electricity businesses. While the market value of these assets represents their fair valuation, it may be necessary for the Commission to determine a cost driven valuation for other regulatory purposes. In this latter case, a depreciated replacement cost method is the most appropriate valuation base for your system fixed assets, although obviously the Commission may wish to have this optimised by the application of ODRC or ODV.

We would be happy to discuss any of our conclusions and reasoning with you at any time, and to support these with the Commission.

Yours faithfully

DELOITTE TOUCHE TOHMATSU



John Hagen
Chairman



Anita Mazzoleni
Director

SUBMISSION ON THE COMMERCE COMMISSION'S DISCUSSION PAPER: REVIEW OF ASSET VALUATION METHODOLOGIES (OCTOBER 2002)

1. Background

This paper supplements Powerco Ltd's response to the Commerce Commission's (the Commission) discussion paper "Review of Asset Valuation Methodologies: Electricity Lines Businesses' System Fixed Assets" dated 1 October 2002. Specifically, this paper addresses the Commission's question as to whether a form of historical cost or replacement cost - either optimised depreciated replacement cost ("ODRC") or optimised deprival value ("ODV"), should be used to establish opening asset values for electricity lines businesses and to value those assets in the future.

2. Financial Reporting and Accountability

For financial reporting and good governance purposes assets should be correctly recorded at their full acquisition cost and subsequent restatements should be to fair values in accordance with Financial reporting Standard 3 - Accounting for Property, Plant and Equipment (FRS3). Fair value will normally be determined by indicated market prices or by a discounted cash flow approach. What follows relates to the valuation of system fixed assets.

3. Objective of the Asset Valuation Methodology

The electricity lines industry is historically characterised by long life specific use assets. To ensure continued availability of capital from which to fund its activities any business must ensure an adequate return to its capital providers to compensate them for the risks of their investment. However, regulation of both the returns to capital providers of natural monopoly businesses, and the security of service that they are required to provide, is generally considered to be desirable to ensure that such services are both assured and priced optimally.

Striking the balance is critical. Electricity consumers demand a network that provides their required service level for the lowest possible price. Investors demand a return on their investment in the network that adequately compensates them for the risk inherent in the investment. Obviously consumers would like to have a higher service level at a lower return to investors and investors would like the opposite. Where this balance is sub optimal, at the extremes, there will be some failure of electricity supply where investors are not incentivised to invest in the networks, or conversely, consumers will pay excessively for services for which there may be no alternative.

Therefore there are two integrated issues that Commission should consider for the regulatory environment for electricity lines businesses:

- investors need to be adequately compensated to maintain an optimal network; and
- the prices of the services should imitate that of a competitive market.

The first issue requires an asset valuation methodology that ensures a 'return of capital' to investors that is required to compensate and incentivise the capital providers of the business to invest in the network at its optimal level. The business is then required to disclose various efficiency indicators to ensure that its services are maintained at the level at which they are paid for. This will determine the level of 'return on capital'. Since return on capital can be based on

any asset valuation methodology, the method chosen should be that which directly focuses on the objective of maintaining an efficient network and imitates a competitive market.

4. Asset Valuation Methodologies

Market value is the ultimate fair valuation for a business subject to regulation such as the Thresholds Regime under consultation by the Commerce Commission. The Commission is currently consulting on a regulatory methodology for the valuation of the system fixed assets of electricity lines businesses. While the market value of these assets represents their fair valuation, it may be necessary for the Commission to determine a cost driven valuation for other regulatory purposes.

In this latter case, the Commission has indicated in the discussion paper that the specific nature of the assets means that they cannot be valued from an opportunity cost perspective as the value of their next best use is scrap value. In certain circumstances an income based valuation method may not be preferred due to the inherent circularities in such an approach for regulating prices. Cost based approaches provide options to address the objectives discussed above, with the two key options being historical cost and replacement cost.

Historical Cost

Depreciated historical cost (“DHC”) values an asset at its original purchase price to the business less accumulated depreciation. Accounting standards would also require all costs associated with the purchase of the assets to be capitalised and depreciated. This would include legal fees, transaction costs, and any payments made to secure easements and other rights of access to the assets. DHC is a well established accounting concept that has the objective of recording the cost of an asset and spreading that cost over the estimated useful life of the asset. The New Zealand accounting standard on accounting for fixed assets was recently brought into line with International Accounting Standards by the adoption in March 2001 of FRS3, Accounting for Property Plant and Equipment.

The depreciation charge in the financial statements, because it is a non-cash charge, may facilitate the creation of a fund from which the asset can be replaced at the end of its useful life. However, generally the asset’s market value will fluctuate compared to the original cost price of the asset for a variety of reasons and therefore the depreciation write-off of the original asset is unlikely ever to equate to the cost of replacing the asset. An accounting tool such as DHC therefore has a low correlation with a valuation methodology that has the objective of ensuring optimal investment in an electricity lines network.

Depreciated indexed historical cost (“DIHC”) is an adjustment to DHC that revalues DHC based on an inflation index. DIHC is an attempt to maintain an asset’s book value at its market value. However an asset’s market value is also unlikely to have a high correlation to movements in the inflation index, as these are more likely to be affected by technological change, commodity and exchange rates etc. DIHC is not therefore likely to ensure optimal investment in an electricity lines network.

Replacement Cost

Depreciated Replacement Cost (“DRC”) values an asset at its replacement cost less a depreciation charge to reflect the age of the asset. DRC is therefore more likely than DHC to identify the level of reinvestment required in the electricity lines network to ensure that the network is maintained.

ODRC is an adjustment to DRC that optimises DRC by valuing an asset at the cost of replacing it with the lowest cost alternative that can produce the same output. The optimisation of assets seeks to reduce ‘gold-plating’ of assets, which has historically been a feature of publicly owned assets.

Such optimisation can be subjective and costly, and as such there is a debate as to whether alternative optimisation methods are more effective. Powerco has suggested that ex ante capital efficiency reviews combined with ex post efficiency disclosure thresholds are a more appropriate way to ensure that investments are optimised. Irrespective of the answer to this, ODRC is more likely than DHC to identify the level of reinvestment required in the electricity lines network, and it is more appropriate than DRC to optimise investment in the networks.

ODV is a further adjustment to ODRC where assets are valued at ODRC unless replacing the assets would not be economic, in which case the assets are valued at their economic value (“EV”), which is the greater of their disposal or salvage value. ODV therefore ensures that where assets are uneconomic they are written down and not included in any further assessment of the network pricing.

Accounting standards require similar adjustments, although with the objective of ensuring items are properly accounted for rather than creating an asset management system. FRS-3 referred to above, allows both DHC and DRC to be applied. Where DRC is applied the standard requires any obsolescence to be removed from the assets. Where an asset recorded at DHC is impaired, then it is required to be written down to its recoverable amount.

5. Best Method for Establishing Opening Values

In determining which asset valuation method is best for establishing opening book values we have focussed on the base methods of DHC and DRC. Adjustments to the selected base method are addressed in a later section.

As discussed previously, the asset valuation methodology selected needs to result in a return of capital as investors will under-invest in their network if the cost of replacing assets is higher. Conversely, those in public ownership may over invest if the opposite occurs.

A desirable valuation methodology from a regulatory standpoint is one that at least signals the level of investment required to maintain the network to the required level. For the reasons set out above, this is not historical cost but is likely to be the method most closely aligned to the cost of replacing the assets. On this basis it is considered that the most appropriate valuation methodology for valuing the opening values of lines businesses’ system fixed assets is DRC or some derivation of DRC. Whilst adequate investment in the network is likely to be achieved using DRC, optimising this investment is more likely to avoid costs to consumers associated with over investment.

The following industry specific issues are also important in the consideration of the appropriate valuation methodology.

(a) Lack of DHC Information

In the case of many electricity lines businesses it is simply impossible to produce records to determine the DHC value of the businesses current system fixed assets at either their vesting date or any other time leading up to the 1994 switch to ODV valuation. This is because those records were not required to be retained or they were generally incomplete and inaccurate for the same reasons.

Many companies used values agreed with the Inland Revenue Department as their opening historical cost values. However, using these values is flawed as these were established simply to calculate an acceptable depreciation charge to calculate a reasonable tax position. The current disparity between the opening accounting, tax and regulatory asset values for most electricity lines businesses verifies that using opening tax values would be as arbitrary and unreasonable as using DHC accounting values for the reasons suggested above.

In addition, since vesting most electricity lines businesses have been sold in arms length transactions, including following the mandatory separation of lines businesses in 1998. Those sales prices, together with their associated transaction costs, then form the historic cost of the purchased assets in the accounts of the acquiring business. Whilst this satisfies accounting requirements for proper recording of opening asset values on which depreciation will be charged over the life of the asset, this does not create an asset valuation methodology which has the objective of ensuring adequate reinvestment in the assets, as discussed above. A replacement cost methodology is still the most appropriate for that purpose.

Similarly, the original 1994 ODV valuation cannot be used as many lines business have continued to discover assets that were not on their asset registers, and which may account for a substantial proportion of the revaluations to date.

The most recent calibrated ODV valuations could be considered appropriate. However, the fact that most arms length sales of electricity lines businesses have been sold for more than their ODV, including in foreign jurisdictions which regulate out monopoly profits, also indicates that ODV may not be an adequate valuation base for opening values. This issue is discussed further in Section 8.

(b) Excessive Profits

It has been suggested that investors in lines businesses are earning excess profits since the businesses switched their asset valuation methodology mid-life from DHC to ODV and are therefore currently allowed to earn a return on capital based on the higher ODV values. As such it is argued that lines businesses should be forced to switch back to DHC to remove such excess profits. Such arguments are flawed for the following reasons:

- the switch to ODV in 1994 was not by choice, but mandated by the Government;
- due to the consolidation in the industry most lines businesses did not pay vesting DHC for their assets, they actually paid a value in excess of ODV;
- the investor base of many companies has changed dramatically since 1994. Current investors have invested on the basis of earning a regulated return on ODV. If excess profits are being earned over the life of the assets due to the switch to ODV, previous investors received the benefit of this, not current investors. Reducing current investors returns will be a

disincentive to investors from reinvesting in these assets or at best increase the cost of capital to lines businesses;

- if lines companies are earning excess profits this should not be corrected by changing the asset valuation methodology to one that is not likely to require optimal investment in the networks. The asset valuation methodology should be set based on maintaining efficient networks and the return regulation should then be applied to remove any excess profits.

Consequently it is not considered that the current ODV valuation of the assets either leads to or conceals potential excess profits. It is also considered that a return to DHC cost is more likely to result in sub optimal reinvestment in the lines networks.

6. Best Method for Valuing the Assets in the Future

The theoretical arguments applied to determining the opening value of the assets are identical for valuing the assets in the future. The appropriate valuation methodology is that which is most likely to ensure that business owners maintain their networks to ensure that the services required are provided. The most appropriate method for valuing the assets in the future is DRC or some derivation of DRC. Optimising DRC may be the best tool to focus public sector business owners on eliminating excessive investment. This is addressed further at section 8. It may be argued that the cost of applying and monitoring a DRC method is greater than that of a DHC method and that DIHC is appropriate to approximate network market value. However, for the reasons set out in Section 3, DIHC is a poor proxy for DRC, and the cost of implementing a DRC method is less than the cost of either under or over investment in the networks.

7. External Evidence

Airports

In the Commission's recent inquiry into airfield activities, the Commission decided by a majority decision that the airports are required to apply DHC in the future for the following reasons:

- the airports businesses chose to switch from DHC to ODRC, and in doing so the Commission determined them to have gamed the asset base which in turn allowed excess profits to be earned;
- the ODRC valuations carried out by the airports businesses were not independently reviewed by the Commission and as a result were inconsistent and subjective; and
- there would be a high cost to implementing a system of standardising and monitoring an ODRC calculation in the airport industry.

However, these factors have little applicability to the electricity lines businesses as the lines businesses did not switch to ODV voluntarily and there is no evidence to indicate that the switch resulted in excess profits. In addition, the current ODV method is well established in the electricity distribution industry, and its application has been fully reviewed. The set up cost of implementing this system is already sunk. On this basis continuing with the ODV method is acceptable if it is optimal for lines networks.

Telecommunications

The Commission has indicated that it prefers ODRC for the telecommunications industry because the assets are long-lived assets and the technology is rapidly advancing. As such DHC values have little relationship with the cost of replicating the service potential of the assets. ODRC also has historically been accepted in the industry. Electricity networks are very similar to telecommunications networks, to the extent that technical convergence is now occurring and is expected to accelerate. Applying a DRC method to the electricity lines industry is therefore consistent with the Commission's preliminary findings for the telecommunications industry.

8. Value in Excess of ODV

It is normal in New Zealand for sales of electricity lines assets to have been transacted between arms length parties at prices that exceed ODV or ODRC values. This implies that ODV may not include all of the costs that are essential to the operation of a network such as easements and other land access rights, customers, and payments necessary to realise synergies from economies of scale etc. There may be considerable differences in such costs between a predominantly rural network that is generally spread over a much wider distribution area, compared to such costs for concentrated urban networks. Conversely it could also imply that businesses are buying cash flows which include excessive returns on capital, although the ODV sales multiples are similar to ODRC sales multiples in jurisdictions which have price regulation regimes such as CPI-x, where such regulated businesses have also been observed to have paid more on a price per Gwhr and price per customer than New Zealand lines businesses.

ODV should be adjusted to include the optimised replacement costs of all of the assets purchased, as all of these are required to provide an efficient network and an optimal service. As such investors need to be given an adequate return on their total investment in providing the networks. Any element of excess profits should be removed by ensuring that owners are not compensated for over or excessive investment in their networks. This is better measured by reference to performance and efficiency measures of output from the lines businesses. This will provide a good indication of whether the business is performing to a greater degree than what consumers need to pay for. However, adjusting profits by altering underlying asset values runs the risk of having both the denominator and the numerator detached from the objectives of the underlying business, and as such risking under investment in the networks. It is more reasonable to ensure that business inputs such as the asset base are maintained at the level required to produce the required outputs such as adequate transportation of electricity. The output itself can then be measured relative to that correct input base, with the level of output regulated where this is deemed to be excessive.

9. Optimisation

As discussed above, a desirable valuation methodology from a regulatory standpoint, is one that at least signals the level of investment required to maintain the network. For the reasons set out above this is not historical cost, but is likely to be one most closely aligned to the cost of replacing the assets. On this basis, we believe that the most appropriate valuation methodology for valuing network assets is DRC or some derivation of DRC.

Whilst adequate investment in the network is likely to be achieved using DRC, optimising this investment is more likely to avoid costs to consumers associated with over investment. However this is generally only likely to occur in lines businesses that are in public ownership. Optimisation

is unlikely to be required for privately owned lines companies as their commercial imperatives are the incentive to make optimal investment decisions. In many cases these could be much more than the lowest cost alternative used for optimising DRC, as many such businesses may consider it more beneficial in the long term to have a higher capital investment for their replacement assets as an appropriate tradeoffs for example, lower operating expenses over the life of the asset. In such cases, a regulatory framework that requires optimisation could be a disincentive for capital providers to make such efficient investment decisions, and as such could regulate a sub optimal outcome. Similarly, consumers or customers may expect, and therefore be prepared to pay for, a high security standard in services provided by publicly owned lines businesses. Regulated optimisation of asset values in these situations may therefore also be an incentive for sub optimal investment decisions in such cases.

10. Conclusion

Our analysis concludes that the most appropriate valuation methodology is DRC as it is most likely to ensure that the required investment in the network is maintained in the manner most efficient. However if the Commission selects ODV, all assets needed to provide the network need to be included in the calculation to ensure it is technically robust.

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