
Review of Asset Valuation Methodologies

Electricity Lines Businesses System Fixed Assets

Submission to the New Zealand Commerce Commission

Monday November 11, 2002

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Introduction



UMS Group Regulatory Experience...

UMS Group has been engaged by **WEL Networks, Powerco and Dunedin Electricity (The Respondents)**, to provide an independent international perspective, in the form of a separate submission, to the New Zealand Commerce Commission's discussion paper on Asset Valuation Methodologies, October 1 2002.

- UMS Group Inc. is a specialist utility consultancy providing consulting and management services to the global electric and gas utility markets during the past 13 years. Special focus is on deregulation, competitive positioning, and the management of change accompanied with extensive expertise in strategic planning, organisational effectiveness and performance management.
- UMS Group has served as an expert witness in regulatory proceedings and is well known globally for its leading perspectives on utility industry strategic directions.
- UMS Group has provided counsel to utilities around the world in the development and execution of regulatory strategy. Many of these engagements have built innovative proposals to create sustainable value for customers, while providing effective incentives for management to drive continual improvement in the financial performance of the business. These strategies are typically founded on a more robust understanding of system cost and performance drivers and have often led companies to greater performance management effectiveness. In parallel, the ease of access and quality of information available to regulators has often improved dramatically.
- UMS Group has prepared and delivered expert witness testimonies for a number of US utility clients on various subjects including industry direction, regulatory incentives, performance management, prudency review of costs and the use of performance benchmarking information in regulatory reviews.



UMS Group Regulatory Experience (cont)...

UMS Group Experience in the United States

- In the US, UMS Group has worked on behalf of a number of electricity distribution utilities in preparing rate cases for local regulatory bodies and defending expenditure budgets questioned by those regulators. Our annual executive conferences have involved the participation of several key regulatory authorities, in many cases presenting the regulators insights, interpretations of historic trends and views on future directions.
- **Entergy** Gulf States, 1998 before the Public Utilities Commission of Texas. Entergy used UMS Group testimony as part of a strategy to show reasonableness of cost and prudent decision-making.
- **Entergy** Texas, 2000 before the Public Utilities Commission of Texas. UMS Group provided direct testimony to support a general rate case using good comparative data to prove reasonableness of costs without breaching client data confidentiality.
- **Central Maine Power** Company, 2000 before the Maine Public Utilities Commission. UMS Group rebuttal testimony played a key role in discrediting the staff position that costs should be cut more deeply than CMP had proposed and allowing the Maine PUC to move forward with settlement discussions.
- **Puget Sound Energy**, 2001 before the Washington Utilities and Transportation Commission. UMS Group supported this general rate case with direct testimony substantiated with benchmarking and business analyses. Electric and gas operations and maintenance costs, capital expenditures, and service quality indices performance were compared, and merger performance was measured against pre-merger projections.
- **Florida Power & Light**, 2002 before the Florida Utility and Telecommunications Commission. Service quality, rates, operations and maintenance costs and capital investment were benchmarked in UMS Group's direct testimony in this rate case.
- *UMS Group has also worked with and has supported guest speakers at its annual global utility conference in the US, Professor Stephen Littlechild, former UK Regulator and Dr. John Tamblyn, the Chair Person for the Essential Services Commission, Victoria, (formerly the Office of the Regulator General (ORG)).*



UMS Group Regulatory Experience (cont)...

UMS Group Experience in Australia

- UMS Group has been involved with electricity and gas regulation in Australia for the past five years, working both for regulators and for utilities in the preparation of regulatory price review cases. Our primary focus has been regulatory strategy and cost modelling with respect to operational expenditure. UMS Group has also partnered with a number of reputed consulting firms to review capital expenditure regulatory issues. In the course of this work, UMS Group has been in liaison with IPART (New South Wales), QCA (Queensland), ESC (Victoria), ESCSA (South Australia) and ACCC (National). Some examples of our work are provided below:
 - IPART – Acted on behalf of five of the six electricity distribution businesses in NSW to defend operating costs in light of an alternate view produced by another consultancy under IPART's commission.
 - The Essential Services Commission, formally known as the Office of the Regulator General (ORG) – Operational efficiency benchmarking of the five Victorian electricity distribution businesses on a global platform.
 - Queensland Competition Authority (QCA)
 - QCA Gas Efficiency Benchmarking – Operational efficiency benchmarking of the two Queensland gas distribution businesses against a sample peer group.
 - Ergon Energy electricity distribution – defence of operating cost performance.



Background...

On 3 October 2000, the New Zealand Government gave the New Zealand Commerce Commission the responsibility for setting price controls in relation to the New Zealand electricity line businesses. This includes: setting the price regulation of electricity lines businesses; determining the methodology to be used for valuing line assets and for undertaking a re-calculation of asset values; and for administering an information disclosure regime for the lines businesses.

The New Zealand Commerce Commission has published six papers to date in support of this process:

1. Preliminary Issues and Process Paper, 10 October 2000
2. Asset Recalibration Document, 28 September 2001
3. Issues Paper: Review of Asset Valuation Methodologies, 14 March 2002
4. Discussion Paper - Control of Electricity Lines Businesses
5. Recalibration of Asset Values of Large Electricity Line Owners: Closing Report - 1 August 2000
6. **Discussion Paper – Review of Asset Valuation Methodologies 1 October 2002**

(A paper on a proposed WACC methodology is understood to follow shortly).

This Submission has been prepared in response to the “*Review of Asset Valuation Methodologies: Electricity Line Businesses’ System Fixed Assets*”, discussion paper.

It is the recommendation of the Respondents, that the Commerce Commission allow interested parties to make comment on the Commerce Commission’s overall proposed regulatory approach to price controls, rather than seek comment on only the constituent parts of the proposed approach.



The New Zealand Context...

It should be noted that New Zealand electricity line businesses operate in an environment which is distinct from other electricity markets around the world and should be considered as such in any external comparisons.

There are currently 28 lines businesses operating within New Zealand. Although lines businesses are traditionally monopolistic by nature, they face an increasing number of competitive issues and are not protected by franchise areas nor license agreements. Within, this environment, New Zealand lines businesses have managed prices to date without the need of intrusive regulation. This has been done through a high level of contestability and competition for customers in a self-managing style of regulation. This is close to a pure form of utility regulation through competition and development of market rates.

Given the regulatory experience of the UK, Australia and the US and the strong comparative efficiency performance of many New Zealand utilities, the New Zealand industry is in a strong position to make an informed and appropriate recommendation on the deemed level of regulation appropriate for its market.



Discussion Paper: Review of Asset Valuation Methodologies (cont)...

The Commerce Commission of New Zealand is currently undertaking a review of asset valuation methodologies for electricity lines businesses system fixed assets, as required under Part 4A of the Commerce Act 1986. On 1 October 2002 as partial fulfillment of this review the Commission released a discussion paper titled “*Review of Asset Valuation Methodologies: Electricity Line Businesses’ System Fixed Assets*”.

The discussion paper focused on two approaches of asset valuations:

- 1) *historic cost-based*
- 2) *replacement cost-based*

The aim of the paper was to highlight, in terms of the evaluation criteria, the advantages and disadvantages of adopting each respective asset valuation method. The criteria for evaluating the proposed asset valuation methodologies, as set out in the discussion paper, are as follows:

- 1) *Efficiency* – that the methodology supports outcomes that are allocatively, productively and dynamically efficient
- 2) *Identification of any Excessive Profits* – that the methodology facilitates the identification of excessive profits
- 3) *Cost Effectiveness* – that the methodology achieves valuation objectives for regulatory purposes at lowest cost



Discussion Paper: Review of Asset Valuation Methodologies (cont)...

The Commission is also required to set thresholds for declaring control in respect of electricity distribution and transmission services supplied by the electricity lines businesses. The discussion paper only provides cursory links between the regulatory regime and the possible asset valuation methodologies.

The Commission has not reached a judgment on which asset valuation method is most appropriate for valuing opening and future asset bases of electricity lines businesses within New Zealand. It has requested that interested parties make submissions to the Commission in response to the *“Review of Asset Valuation Methodologies: Electricity Line Businesses’ System Fixed Assets”*, discussion paper.



Summary of the Respondents Considered Position...

Summary of the Respondents Considered Position:

What follows is a summary of the Respondents' considered position in relation to the *“Review of Asset Valuation Methodologies: Electricity Line Businesses’ System Fixed Assets”*, discussion paper. Details of each position is provided within this document.

The Respondents Concur:

1. That the proposed historic cost-based approach for valuating assets is inappropriate as it:
 - is unrelated to actual asset value or the true level of investment in the business;
 - encourages management to over invest in the Network where asset value depreciates over time, generating higher than necessary capital costs for consumers to bear.

2. That the proposed replacement cost-based approach for valuing assets is similarly problematic in methodology and application, as it provides no test or basis for accountability in making optimal spend decisions on the Network. However, despite its short comings, the Respondents would consider an ODRC-Based Asset Valuation over a DHC-Based Asset Valuation



Summary of the Respondents Considered Position (cont)...

3. That the definition of 'Excessive Profits' supplied in the discussion paper is misleading and irrelevant. The term Excessive Profits should be reconsidered from several perspectives before further proposals are presented to the industry. The Respondents argue that:
 - Any definition of "Profits" must take into account each element of the electricity distribution industry's value chain, in terms of how each element contributes to the total profits of the system.
 - Any definition of "Excessive Profits" or "Returns" must consider the risks associated with competition, the risks associated with stranded assets and finally the impact of economic risk capital on effective returns. Combined, these risks represent additional costs which must be reflected and recovered through current charges and will need to be factored into any calculation on what is considered to be a "reasonable" rate of return.
 - Excessive Profits also needs to reflect the notion of timing, in that profits must be above a target range for a sustained period of time, before they can be deemed "excessive".
 - The concept of "Excessive Profits" is arbitrary and highly complex as well being fundamentally flawed in its underlying principles. The Respondents strongly recommend the Commission abandon its "Excessive Profits Criterion" in relation to Asset Valuation and replace it with one that facilitates the achievement of fair outcomes for both investors and users.
4. On the issue of Thresholds the Respondents agree that a threshold based regulatory mechanism should be *targeted* as opposed to universal.
5. That there are additional costs associated with 'heavy-handed' regulation that have adverse effects on the regulator, the distribution business and the customer.



Summary of the Respondents Considered Position (cont)...

The Respondents Considered Position is supported by a discussion of:

1. Regulatory Frameworks around the World;
2. Review of Industry Risk Factors and impacts on Investors
3. Review of the Role of the Regulator,
4. The proposed methods of Asset Valuation and Thresholds, and
5. Definition of “Excessive Profits”.



Global Industry Review



Recent developments within United Kingdom (UK) Regulation have seen the Regulator take on a more intrusive role...

- *Privatisation occurred in 1989:*
 - Prices were set by the government; and
 - Guaranteed and overall standards were introduced.
- *The first price review occurred in 1994:*
 - Savings in the order of 25% in operating expenditure (OPEX) were identified;
 - Savings in the order of 25% in capital expenditure (CAPEX) were identified;
 - The retail price index formula RPI-X was introduced, and
 - Businesses were expected to move 75% closer to the industry frontier.
- *The 1994 price review was re-opened in 1996:*
 - This occurred because OFFER badly misjudged the ability and willingness of RECs to “game” their cost forecasts in 1994.
 - Further significant savings in OPEX and CAPEX were deemed achievable; and
 - There was no significant change in guaranteed and overall standards.
- *A third price review occurred in 2000:*
 - Service levels, environmental factors, power quality, capital and energy efficiency incorporated within pricing determinations;
 - Given the above drivers, application of the RPI-X formula has become more complex;
 - Decision making processes have become increasingly political and less clear to customers;
 - The regulator requested price reductions ranging from 19% to 33%; and
 - Penalties were imposed and bonuses granted for failing to meet / achieving performance targets.



UK Regulation – In Summary

- CPI-X model has fully matured, but debate is proceeding on the potential for the current regime to sustain further efficiency gains into the future.
- The Regulator has taken on a 'watchdog' approach, and the cost of regulation is rising.
- Service levels are being progressively increased, and without good intelligence on the cost of those improved service levels, the result may be a decline in some earnings for some utilities – which will act as a disincentive for further investment.
- The Regulator has developing an interest in asset risk management, tending towards more detailed reviews and more prescriptive rulings.



UK Regulation – Conclusions

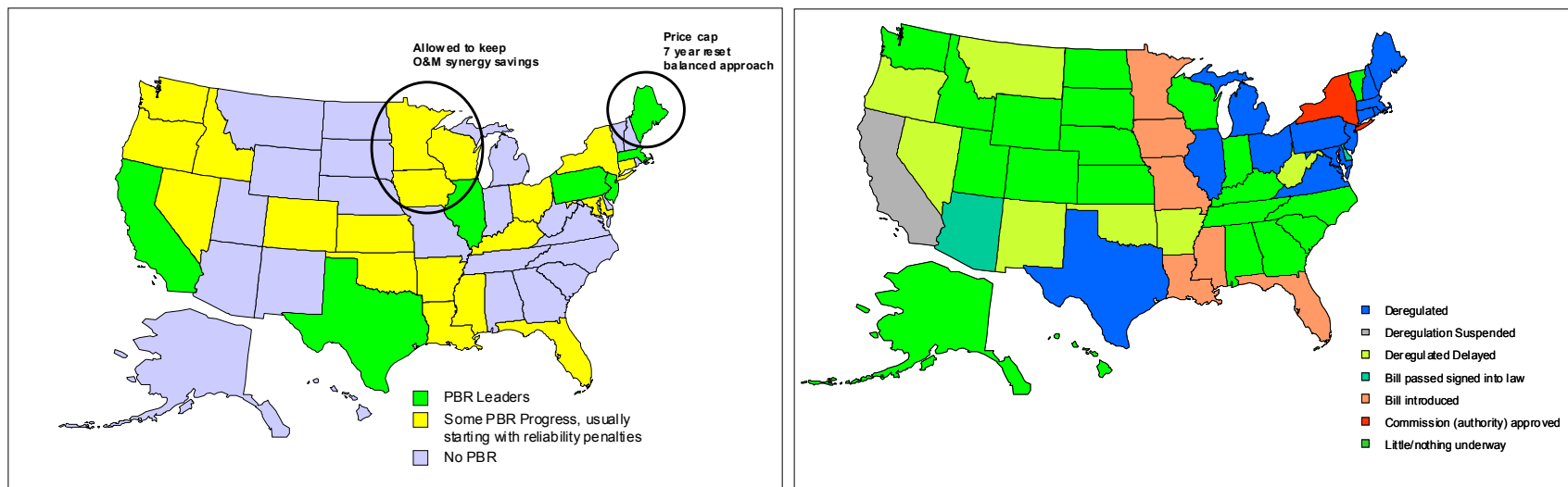
- The UK regulatory regime for electricity distribution and transmission has delivered substantial efficiency improvements since vesting / privatisation in 1989. At the same time, the industry has undertaken substantial investment in new assets, service quality has improved and consumers are better served at lower prices.
- These outcomes have been accompanied by progressively more information intensive (or intrusive) requirements imposed by legislation and regulators. As a result, the cost of regulation has risen markedly since 1989.
- In the lead up to the next regulatory reviews, there is widespread debate about whether regulation can continue to deliver ongoing improvements unless consumers face future price rises to ensure continuing investment in assets and service quality improvements. If the UK regimes have pushed utilities to the “efficiency frontier”, there is likely to be closer alignment between outcomes of US-style “cost-of-service” regimes in future price resets.
- It is clear that the same level of gains in efficiency and / or service quality are not available in New Zealand. New Zealand has more line businesses, but only 5% as many end consumers; and past reforms have already delivered significant improvements in efficiency.
- However, some of the attributes of the UK regimes are desirable, particularly those aspects that incentivise ongoing improvement by allowing distributors to retain “above benchmark” profits from efficiency gains for fixed, and minimum, periods – without regulatory intervention.



In the United States, the Federal Energy Regulatory Commission (FERC) oversees the electricity transmission and energy trading industry, but many states have adopted their own approaches that are in conflict with the goals of Federal regulators...

The current status of reform is uneven within the US electricity distribution industry as regulators develop a state by state approach while transmission access and sales of energy between the states are governed by the FERC. This is leading to many forms of regulation being developed with no uniform approach emerging.

Note: 49 of the 50 states now have their own home regulator.



...This approach is resulting in a range of controls and opportunities

The approaches of the different entities are varied and include:

- No activity;
- Proposed legislation and regulatory plan;
- Regulatory plan;
- Pending resolution; and
- Law

This non-uniform approach to regulation has led to a number of key observations:

- Electricity businesses have diversified into other 'less regulated' US States to spread their financial risk and capture profits in these less regulated areas.
- Distribution businesses with multiple service areas spend a large proportion of their time managing their regulators and not managing their business or assets:
 - The focus of the business is on minimising the risk associated with the loss of revenue due to regulatory constraints; and
 - The primary focus should be on optimising assets, maximising customer service and increasing the efficiency of the business
- Up to 20 – 30 staff per company can be employed in relation to annual price resets and in managing the overall regulatory process.



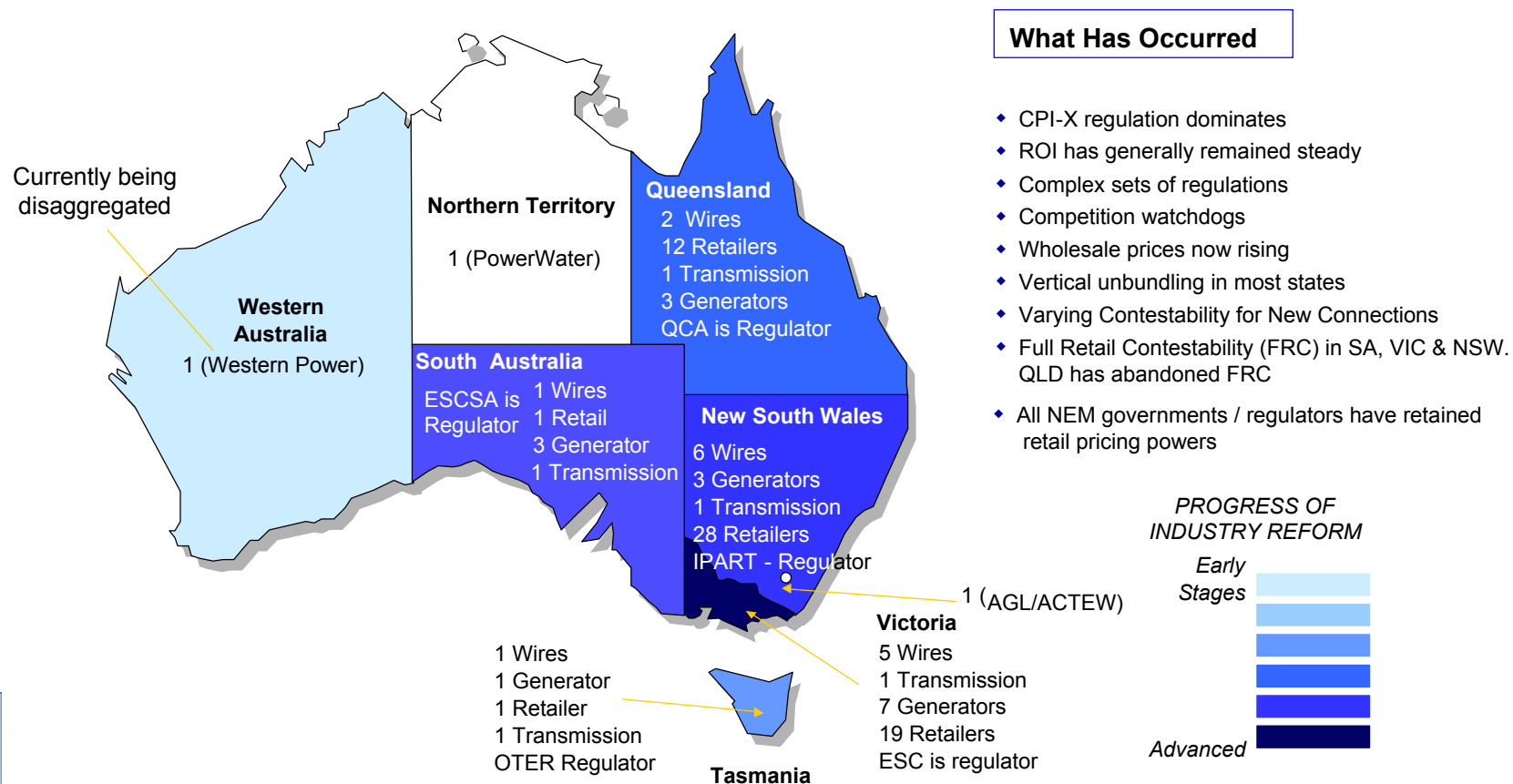
US Regulation – Conclusions

- Regulation of privately owned US electric utilities has continued since the early part of the last century through a relatively slow, complex, costly, administrative law process that (predominantly) includes detailed scrutiny of costs, and capping of rates of return.
- There is also evidence that the US regimes were “inefficient”. In the lead up to the restructuring process in the early 1990s, regulators and legislators identified over US\$200 billion in “stranded assets” that had been approved by regulators, but were not economically viable in the emerging “markets”. Both investors and ratepayers were required to “wear” part of this cost.
- The benefits of this form of regulation have been questioned widely, both in the US and elsewhere, with moves away from regulation to “markets” where possible.
- It is not clear that many attributes of US-style regimes are applicable to NZ. Although the following should be recognised:
 - that regulation does not always deliver benefits to investors or end consumers;
 - that there is debate across the US about the benefits of moving to alternative “incentive”, or “performance-based” forms of regulation; and
 - that some jurisdictions have already moved in this direction.



Australia has a variety of mechanisms and regulatory bodies...

In Australia, regulation has been evolving on a state by state basis with the expectation of common electricity and gas markets for the country, and ACCC regulating the Transmission Grids. As can be seen below, the Australian industry is undergoing reform on a state by state basis and the eastern states are leading the way. Similar to the UK, Australian Regulators operate on price-based or revenue-based “incentive” regime.



Regulation has evolved on a state by state basis...

The Victorian Essential Services Commission (ESC – previously the Office of the Regulator General, ORG):

- The ESC uses both the building block and benchmark approach to Regulation with a heavy leaning to Building Blocks. Results of the recent reset led to a large Po adjustment, in the form of a first year X factor of between 16-21%
- *Building Blocks Approach* - Elimination of monopoly power, delivering customer benefit & efficiency are the key drivers.
- *Benchmarks Approach* - Emphasises efficiency comparisons rather than contestability. Operational expenditure is based on benchmarks and industry submissions. This approach can distribute penalties for poor performance.
- This approach is generally regarded as forward looking and justified on a cost basis. Return on Capital is based on the Regulator's view of Industry Risk (Weighted Average Cost of Capital)

CPI-X “tariff basket” price cap model currently employed within Victoria

- Forecast revenue benchmarks (efficient firm)
- Targets for service quality/reliability
- Benchmarks for operating costs/capital financing
- X factor applied to a basket of prices
- Price caps reviewed every five years
- Distributors have substantial freedom to set economically efficient network charges within broad guidelines



Regulation has evolved on a state by state basis (cont)...

Independent Pricing and Regulatory Tribunal (IPART - NSW):

- IPART has adopted a similar *Building Block Approach* to set base revenues, (IPART set revenue caps in 2000, and are now considering price caps or a combination of both):
 - Based on efficient operating costs;
 - Return of Capital; and
 - Risk adjusted return on Capital.
- Efficiency gains are determined by a suite of Indicators:
 - Economic Analysis by London Economics;
 - Limited set of benchmark Indicators; and
 - Industry Productivity Trends.
- **Other Australian States** are generally following the ESC and IPART's approach through pursuing 'Incentive Based Regulation' with variations in regards to pricing algorithm, cost comparison methodology and degree of regulatory intrusion. In particular, the QCA (Queensland) is using cost-based benchmarking to assess operational costs. The ESCSA of South Australia is favouring a close relationship with ETSA, with a focus on service level and reliability indicators tied to revenue incentives. Other Australian Regulators are in their infancy at this time.



The impacts of Australian Regulation on the economy, customers and shareholders include...

A balance between customer and business interests

- Prices to recover efficient costs
- Average prices down 20% but now rising
- Reduced number/duration of interruptions

Shareholder impact variable

- Liberalised market / investment opportunities
- Clarification of regulation / market performance
- Some investors expanding / others selling
- Company restructuring (eg separation of NW / energy)

Positive multiplier effects on Australia's economy

- Improved energy sector productivity
- Lower energy costs for downstream industries



This approach has raised the following questions:

- **Have initial “tough” regulatory decisions undermined incentives for long-term investment?**
 - Were price caps/regulatory WACC’s too low?
 - Was there too greater short-term focus on price as opposed to long-term investment?
 - Have decisions increased regulatory risk?
- **The Australian Productivity Commission finds that regulators should:**
 - Set price caps to recover efficient long-term costs including risk adjusted return;
 - “Lean towards” promoting efficient long-term investment; and
 - Not “rule out” returns above regulatory WACC for successful greenfield projects.



Australian Regulation – Conclusions

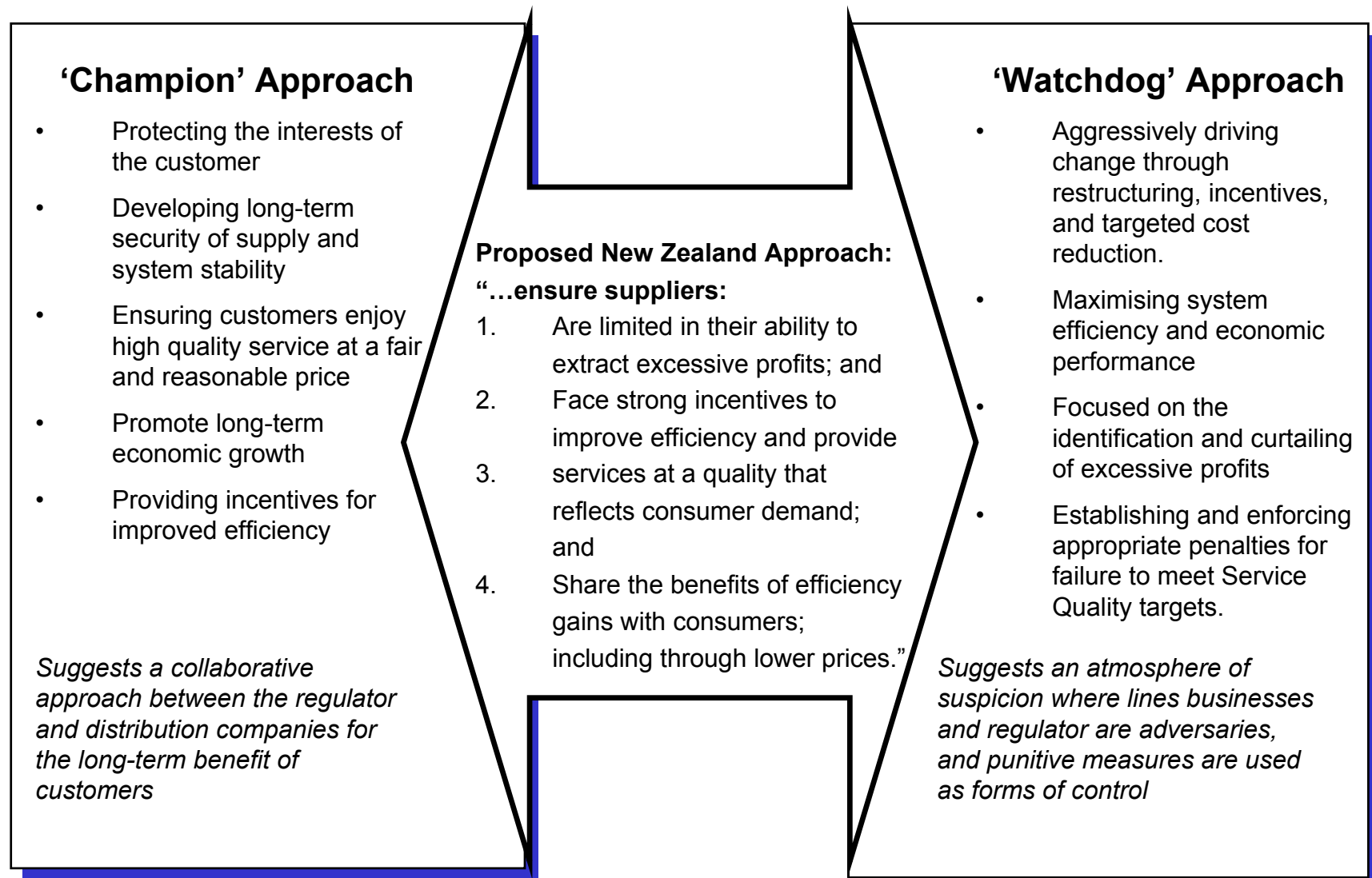
- Evidence is emerging, particularly in Victoria which introduced UK-style “incentive” regulation of electricity distribution in 1994, that Australia is achieving clear efficiency benefits. In some aspects, such as development of service quality “incentives”, Australian regulators have overtaken their UK counterparts.
- However, the Australian regime is confused and complicated by significant differences in application of common regulatory principles across jurisdictions; it is less clear that end consumers are deriving similar benefits to UK consumers; and there is widespread debate about the effect of regulatory variability and uncertainty on utility investment.
- New Zealand distributors have already achieved a lot of the successes that are associated with “incentives” UK and Australian style regulation and if allowed to will continue to build on those successes without the need for arbitrary intervention by regulators thus avoiding the unintended consequences and costs of UK and Australian regimes.
- NZ faces a simpler situation than Australia with only one, single house of government. This should in fact make policy decision making easier. However, the current reform proposals, particularly the use of (relatively) arbitrary powers for regulators to intervene based on (relatively) arbitrary “thresholds”, shows that lessons from international experience have not been translated into effective policy.



The Role Of The Regulator



There are potentially two extreme roles a Regulator can undertake...



The Respondents advocate a 'champion' approach that incentivises positive behaviours and outcomes for all stakeholders through collaboration

The watchdog approach is expensive to both the regulator and the distribution company:

- Since 1997 in the United Kingdom, regulation became more heavy-handed and intrusive. The combined OFFER/OFGAS budget has risen from £ 30m in 1997 to a current total of £ 87m.

The watchdog approach can unnecessarily reduce the amount of capital investment:

- Increased shareholder risk as a result of heavy-handed regulation can squeeze distributor cash flow to the extent that reliability suffers and further investment is not sustainable

The champion approach can generate strong industry growth through promotion of stable and secure regulation of returns

- United States Federal Energy Regulatory Commission's mission is to provide 'dependable, affordable energy through sustained competitive markets'
- This champion regime has promoted a regulatory mechanism in several US states whereby a distribution companies can operate to the satisfaction of consumers for extended periods without attracting costly regulatory intrusion, primarily because costs have been stable or falling

The champion approach promotes a long-term perspective for the benefit of end consumers

- It ensures a balance across short-term anomalies caused by uncontrollable market factors such as changes in the environmental and political landscape, variance in risk and financial costs, and hence variability in extraordinary one-off profits and losses



The Respondents Considered Position...



The Respondents Concur...

- 1. That the proposed historic cost-based approach for valuating assets is inappropriate as it is unrelated to actual or perceived value of assets to users.*



Depreciated Historic Cost-Based Asset Valuation

Definition: Depreciated Historic Cost (DHC)

The original cost of acquiring or building the asset, as recognised under generally accepted accounting principles. Historic costs are usually depreciated to reflect “wear and tear” and obsolescence over the economic lives of assets. Historic costs may also be indexed for inflation.

Source : Paragraph 5.21, p46

The main advantages of (DHC) approaches is that they are relatively simple, transparent and objective, which can lower regulatory costs.

Source : Australian Productivity Commission “Review of the National Access Regime”, p364



¹ (From Comments on submissions by various parties to the ORG on the Method of Distribution System Asset Valuation used in the Victorian Gas Access Arrangements – EPD 1998)

Depreciated Historic Cost-Based Asset Valuation

Why is DHC-Based Asset Valuation inappropriate as an Asset Valuation Methodology?

- It can create an incentive to cost-pad assets, requiring regulators to ensure that proposed new investments are efficient or prudently incurred, thereby reducing or eliminating the advantage of simplicity.
- Existing historic construction cost details within New Zealand lines businesses are considered to be incomplete and inaccurate, and thus to rebuild historic costs for the industry will be time consuming and expensive.
- Because assets depreciate to zero value over time, 'lumpy' - but still efficient - new investment can produce 'price shock' for consumers.
- It is susceptible to a lack of transparency or separability, particularly in older asset records. For example, asset recording is likely to be inconsistent across companies because of the use of differing accounting policies over time.¹
- It does not provide a basis for determining which historic costs have been recovered in the past.
- There is no true linkage between depreciated life and technical life, causing assets to be retired for economic reasons despite still being used and useful. The converse is also true
- ***The Respondents do not support the use of DHC-Based Asset Valuation***



¹ (From Comments on submissions by various parties to the ORG on the Method of Distribution System Asset Valuation used in the Victorian Gas Access Arrangements – EPD 1998)

The Respondents Concur...

2. That the proposed replacement cost-based approach for valuating assets is similarly problematic in methodology and application as it provides no test or basis for accountability in making optimal spend decisions on the Network. However, despite its short comings, the Respondents would consider an ODRC-Based Asset Valuation over a DHC-Based Asset Valuation



Replacement Cost-Based Asset Valuation Methodology

Definition: Optimised Depreciated Replacement Cost (ODRC)

An estimate of the depreciated cost of the most efficient, lowest-cost combination of assets that could replace existing assets and offer the same utility or level of service, or the level of service customers prefer (whichever is the lowest).

Source : para 5.32, p48

If a new technology can deliver the service at a lower cost than the existing assets, those assets will be valued at the cost of the new technology. In this way, (ODRC) is said to emulate what would happen to asset values in a competitive market.

Source : Australian Productivity Commission "Review of the National Access Regime", p356



Replacement Cost-Based Asset Valuation Methodology

Why is ODRC-Based Asset Valuation inappropriate as an Asset Valuation Methodology?

Regulators may believe that, having imperfect information about the merits of an investment, optimisation can make it more difficult for a project's proponents to 'game' the regulator. However, the extent of the benefit from ex post optimisation is likely to be greater the more difficult it is for a regulator to determine whether a proposed investment is prudent. Unfortunately, where the potential benefits from optimisation are high, the potential costs are also high.

Further arguments highlight the problems inherent with this form of asset valuation:

- Over time, ODRC and DHC are likely to diverge. In theory, ODRC values would normally be expected to trend lower than an inflation adjusted DHC value — the optimisation in ODRC provides scope to lower asset values but rarely to increase them. In practice, however, ODRC values can also be higher than an inflation adjusted DHC valuation.
- ODRC optimisation is information intensive and costly; and often increases risks to owners without a sufficient offsetting benefit to the community.
- Energy users (in Australia) consider ODRC highly subjective and non-transparent allowing providers to earn monopoly rents. Similar views appear to be the basis for the Commission's concern about 'Excessive Profits'.
- Network obsolescence from emerging technologies – that have potential to benefit users - could “strand” assets.

- ***Despite its short comings, the Respondents would consider an ODRC-Based Asset Valuation over a DHC-Based Asset Valuation***



Asset Valuation Methodology – Conclusions

- Neither Historical Cost, nor Replacement Cost asset valuation methodologies are ideal for NZ.
- Application of an Historical Cost approach could reduce risks to lines businesses from “arbitrary” asset standing. However, the supposed benefits of simplicity are unlikely because of lack of reliable data on asset condition across the businesses; and end consumers could face “price shock” whenever major investment is required to replace fully depreciated assets.
- Application of a Replacement Cost approach may overcome the problem of asset data consistency; and it may shield end-consumers from price shocks following major asset replacement. However, it also creates a real risk to lines businesses in the face of “asset stranding” through ex post re-optimisation – even where investment was, at the time, efficient.
- Given the practical difficulties in implementing a “fair” and reliable Historical Cost approach, it seems inevitable that a Replacement Cost approach will be required. But such an approach should not be implemented until current “rules” are comprehensively reviewed and revised, and lines businesses have sufficient time to prepare reliable asset registers.



The Respondents Concur ...

3. That the definition of 'Excessive Profits' supplied in the discussion paper is misleading and irrelevant. The term Excessive Profits should be reconsidered from several perspectives by the Respondents before further proposals are presented to the industry.

The concept of "Excessive Profits" is arbitrary and highly complex as well being fundamentally flawed in its underlying principles. The Respondents strongly recommend the Commission abandon its "Excessive Profits Criterion" in relation to Asset Valuation and replace it with one that facilitates the achievement of fair outcomes for both investors and users.



“Excessive Profits”

The Commission regards “Excessive Profits” as a key evaluation criterion for assessing the relative merits of the asset valuation methodologies. The paper does not define “Excessive Profits” beyond that such profits can be identified through comparing companies’ revenues with “reasonable” or efficient costs; and that they are linked in some way to asset valuation.

Such a loose definition begs the question of how “Excessive Profits” should be defined; or whether such a definition is actually relevant to asset valuation methodology. After all, asset valuation *per se* does not create profit.

Asset value is a crucial component in determination of allowable revenue for regulated monopolies, however the New Zealand electric distributors do not enjoy the same level of monopoly protection as US based lines businesses. In the UK and Australia, Lines Businesses have defined geographic areas, however they have no explicit legal protection against bypass or inset competition. In both countries, regulators rely on common sense in network pricing to ward off inefficient duplication, although customers are free to pursue bypass as a negotiation strategy or an alternative to explicit monopoly supply.

Revenue derived from the assets relies on both the asset value and the allowed ‘rate of return’ applied to asset values. If a regulatory regime is well designed **and efficient**, both investors and customers will benefit. In this context, there is no such thing as “excessive profit”, just “bad regulation”. A key to good regulatory design is an asset valuation methodology that is “fair” to both investors and users. Accordingly, the Respondents believe that the Commission should abandon its second criterion and replace it with one that *facilitates the achievement of fair outcomes for both investors and users*.



“Excessive Profits”

The respondents suggest that there are three key risks or impacts which need to be considered in any asset valuation methodology that impact on the concept of “Excessive Profits”. These will be handled in turn and incorporate arguments against both historic cost-based and replacement cost-based asset valuation methodologies.

1. Competitive Risk: Any asset valuation methodology needs to reflect and compensate shareholders for the risks they bear in relation to a competitive market. Although New Zealand lines businesses are monopolistic by nature, they face an increasing number of competitive issues. These relate to sub divisions, the lack of franchise areas and license agreements, distributed generation and the introduction of new technology, etc. As a result of these competitive forces, the lines businesses run the significant risk of entry from other distributors selectively “cherry picking” customers and rendering associated asset investments obsolete.

2. Risk of Stranded Assets: The second risk associated with asset valuation methodology relates to technological obsolescence. Most assets are built for 40+ years. Breakthroughs in technology, such as distributed generation, fuel cells , etc present a major risk in terms of rendering a Network asset(s) obsolete. The net result is a diminished ODV due to stranded asset valuation.

3. The Cost of Risk Capital: Regulators within the UK and Australia are now giving consideration to allowing utilities a premium on allowed return to compensate them for the economic risk capital implicit in the capital structure of distribution businesses. In fact, the ACCC has accepted in draft, the decision to allow utilities a premium to compensate for this economic risk of capital. The additional risks associated with regulation, politics, physical security and other financial risks also need to be considered and built into any regulatory calculation on what is a “reasonable” rate of return. While not directly relevant to the asset valuation methodology, the regulator must be able to define what constitutes a reasonable rate of return and decide how this impacts on asset valuations.



“Excessive Profits”

On the issue of “Excessive Profits” the Respondents would also argue that any such definitions would also need to consider two additional influences.

4. Timing Factor: In any final judgment on what is considered to be “Excessive Profits”, the Regulator must commit to stability of revenue flows and to non-intervention for a sustained period of time, say three to five years. Experience with “incentive” regulatory regimes in both the UK and Australia proves conclusively that the ability of utilities to “out-perform” regulatory benchmarks and earn above benchmark profits delivers efficiency to end consumers in the longer term. Intervention by regulators, just because they believe “excessive profits” are being earned would unsettle financial markets, increase financing costs for NZ utilities, and reduce any incentive to drive efficiency improvements that would, ultimately, benefit end consumers.

5. Total System Profits: The Regulator will need to ensure that profits earned in any given business are in fact earned for each part of the value chain. Only one party can ever claim to have access to all the information necessary to establish a “fair and reasonable” (regulated) asset valuation; and that is the Asset Owner. In short, no regulator nor consultant can ever hope to have enough information to fully understand whether investment has, or has not been efficient in the past. For example, in the area of asset ownership there are risks and costs associated with acquiring and building assets and combining them into an integrated system. The expected returns or profits allowed then for the asset ownership part of the business must justify the risks associated with Asset Ownership.

Similarly, an Asset Owner who outsources services (e.g. design and build, operations and maintenance, etc) in part, or in whole, will need to ensure that the contractor(s) receives a fair and reasonable profit for their services. This in turn is appropriately passed through to the customer. An evaluation of profit in this example should be based on the contractors’ performance in delivering optimal service levels at a reasonable cost.



The Respondents Concur ...

4. Notwithstanding the facts that the Act defines a vague notion of “thresholds”, and that the Commission has proposed a set of arbitrary criteria for “thresholds” that would determine whether the Commission will intervene in the affairs of any particular lines business, a threshold based mechanism based on regulation of profit through an asset valuation methodology is impractical, ineffectual and unsupportable. There is no example, anywhere in the world, where profit regulation has been effective in stimulating efficiency improvements, or has delivered long-term benefits to end consumers. It is inconceivable that it would be effective if linked to an asset valuation methodology.



Thresholds

On the issue of Thresholds the Respondents argue that a threshold based regulatory mechanism based on regulation of profit through an asset valuation methodology is impractical, ineffectual and unsupportable:

- The thresholds proposed in the Commission's 21 March 2002 *Discussion Paper - Regulation of Electricity Lines Businesses* are:
 - Over time, fails to materially improve efficiency (an efficiency threshold)
 - Over time, makes excessive profits (a profit threshold)
 - Over time, fails to share efficiency gains with consumers (a sharing threshold)
 - Fails to provide goods and services at a quality that reflects consumer preferences (a quality threshold)
- In effect, the Commission now appears to be attempting to link a (vague) notion of “a profit threshold” to selection of an asset valuation methodology.
- Notwithstanding the facts that the Act defines this vague notion of thresholds, and that the Commission has proposed a set of arbitrary criteria for thresholds (that will determine whether it will intervene in the affairs of any particular lines business), there is no example, anywhere in the world, where profit regulation has been effective in stimulating efficiency improvements, or has delivered long-term benefits to end consumers.
 - Profit regulation provides a powerful and effective disincentive for utilities to “stop trying” as they approach the profit “cap”;
 - This disincentive cannot be countered by imposing something like “an efficiency threshold”; and
 - Consumers will never get an opportunity to share in benefits that are lost through “bad regulation”.
 - In addition, vague discretionary power for regulators to intervene – at any time – creates substantial regulatory risk that would unsettle financial markets, thereby increasing financing costs for lines businesses.
- It is inconceivable that “profit regulation” would be effective if linked to an asset valuation methodology.



The Respondents Concur ...

5. That there are additional costs associated with 'heavy-handed' regulation which have adverse effects on the regulator, the distribution businesses and the consumer.



Additional costs associated with “heavy handed” regulation

The “*Review of Asset Valuation Methodologies: Electricity Line Businesses’ System Fixed Assets*”, discussion paper details three evaluation criteria which the Commerce Commission has decided to employ with regard to evaluating the asset valuation methodologies. One of these relates to cost effectiveness and argues that any approach to asset valuation should be done at least cost.

The respondents agree that there are additional costs associated with ‘heavy-handed’ regulation that have adverse effects on the regulator, the lines businesses and the customer.

- Firstly, there are costs that the Regulator (and ultimately the customer) will need to bear in terms of consultants, increased internal staff and costs associated with legal counsel
- Secondly, the downward pressure on distribution costs caused by heavy-handed regulation, impacts on distribution businesses’ ability to make prudent investment decisions. This will have a negative effect on Network performance.
- Thirdly, heavy handed regulation creates an ethos that pits management against the regulator and produces a great deal of waste in the system:
 - *Reduces free flow of information*
 - *Creates a we/they context which encourages suspicion and retards communication*
 - *Promotes ‘gamesmanship’ behaviours and illogical / uneconomic outcomes*
 - *Slows the pace of industry performance improvement*



Recommended Path Forward For Asset Valuation



Each asset valuation methodology has problems; but we must move forward ...

- **The valuation methodology for regulation of line business assets must satisfy the following criteria –**
 - Reflect a “fair” value of the actual investment in the network, to ensure that investors are adequately compensated for past investment.
 - Provide appropriate surety for future investment in assets; and meet the reasonable expectations of financial (debt and equity) markets, to ensure ready access to ‘efficient’ finance.
 - Be based on reliable information about the assets in use, and asset condition.
 - Reflect the technical, financial and economic risks that network asset valuations create for network businesses, particularly from emerging technologies that have potential to benefit users – but which could “strand” otherwise efficient assets.
- *In short, asset valuation is not an economic issue. Economists pursuing efficiency don't care about sunk investments. Changing the asset value of sunk investments will not change efficiency of past investment. The primary focus of economic regulation is (or should be) on promoting efficiency of future investment; and asset valuation methodologies have little bearing on this goal.*



To meet these conditions, the Commission must ...

- Acknowledge the technical, financial and economic risks that network asset valuations create for lines businesses.
- Establish the rules that will apply to asset valuations – which will require the ODV Manual to be refined and revised.
- Allow time for all line businesses to make the transition from “advisory” asset valuations to “enforceable” regulatory asset valuations. This may require major upgrades to asset registers and assessment of asset condition.
- Commit to a valuation methodology into the future – changing methodology would create uncertainty.

