DOMESTIC ENERGY USERS' NETWORK

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To the Electricity Authority: Cross-submission: Transmission Pricing Methodology
Molly Melhuish, March 28 2013

SUMMARY: Industry submissions on transmission pricing methodology say the proposal would create new costs and risks that will drive consumer prices higher. DEUN concludes that the proposal is just the latest and most extreme of a series of regulatory initiatives that are supporting price rises and squeezing out small independent innovative competitors to the main retailer-generators.

This cross-submission refers to about 55 submissions that were made to the Authority's consultation document on Transmission Pricing Methodology, together with about a dozen reports by expert economists.

Transpower's covering letter amounts to an excellent summary of views from the wide spectrum of industry interests (few consumers made submissions).

> Transmission pricing is challenging and has a history of causing dispute. As a sector, we have allowed this challenge to divert resources and attention away from issues that have greater potential to improve outcomes for consumers. This was our experience in the 1990s when Transpower governed transmission pricing.
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> The Authority has put forward a novel approach to trying to resolve this challenge. While the proposal is intellectually seductive, using a complex modelling approach to setting transmission pricing will only increase disputes. The old arguments over allocating the costs of past investments will continue, and will be cloaked in more complexity.
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> We should not be trying to change something that is not broken. Rather than a radical departure from current arrangements, Transpower's view is that we should be holding to a stable, simple and durable approach to transmission pricing so that we can collectively direct our focus and resources at matters more likely to deliver benefits.
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> A possible exception is the HVDC, where there are acknowledged inefficiencies in the current methodology. Elements of the Authority's approach may provide a mechanism to improve that and this should be tested through industry consultation against other options.

The quotations below exemplify a number of themes relevant to domestic consumer interests. Section numbers have been retained where they occur, to help readers who seek the context of the quotations in the original submissions. Table of Acronyms, p. 12.

1. QUOTES FROM SUBMISSIONS

The Authority's proposal is not shown to be in the long term benefit of consumers.

Electricity Network Association	The ENA does not consider the case has been made that it is in the long-term interests of consumers to bundle the HVDC charge with the IC charge, as this issue is not considered in its own right in the TPM Proposal. Previous studies have indicated this bundling would likely lead to consumer price rises.
Mighty River Power	7. Consumers will be unambiguously worse off as a result of the proposal. 7.1 First, wholesale market prices will rise as transmission charges become variable, as opposed to the current fixed charges. Consumers will also be likely to immediately bear the majority of the costs of the HVDC link, which are currently incurred by South Island generators.
Auckland Chamber of Commerce	it is not possible to confirm whether introduction of a pricing methodology proposal is to the long-term benefit of consumers without an assessment of the impact (including pricing) of the proposals on consumers. As noted above, the Authority's TPM Proposal Paper did not undertake this, instead limiting its assessment narrowly to efficiency impacts (which may or may not be passed on to consumers).

The Authority's proposal would lead to higher prices for consumers.

Contact	As it stands the Proposal will significantly increase risk in the electricity supply chain, risk that will be reflected in the prices inevitably borne by customers.
Energy for Industry	It seems likely that this complex proposal will increase costs and risks at all parts of the electricity delivery chain, including for Energy for Industry. . . . The risks and costs will be recovered in the retail price of electricity. . . Customers will find it difficult to accept an increase in retail prices because of the transmission pricing regime when there has been a lot of public comment that there is excess capacity in the generation market as well as flat demand which is expected to result in flat wholesale prices.
Genesis	89. Existing market complexity and perceived information asymmetry between incumbents and potential new entrants is already cited as a key reason for non-entry of a range of potential new players. Increases in complexity and opacity are likely to intensify this issue, 96. We consider that this will equate to higher average energy prices and higher peak prices that will flow through to retail energy prices.
Clearwater hydro	Investment in embedded generation has been undertaken based on the current pricing regime. Massive changes as proposed add uncertainty to the industry, will lead to less investment and higher consumer prices.

The proposal would reduce reliability of supply by removing much of the incentive to control peak loads on the system.

Genesis	it is highly likely that any existing demand response around RCPD will be softened. We suggest that higher peak demands and greater security of supply concerns are a likely result. . . .
DEUN	Domestic consumers have a particular interest in network pricing policy, as we are the main causers of critical peak loads – those that drive high losses, high maintenance bills and new transmission investment. . . . [we support the] focus of the present methodology on reliability of transmission services, rather than their function in promoting competition over an increasingly wide customer base. . .

Mighty River Power	The proposal to levy the charge across peak injections will incentivise generators to avoid meeting peak demand and reduce investment in peaking generation plant. That, of course, has obvious implications for security and reliability of supply for end use consumers, being important statutory objectives.
Price Waterhouse coopers, for 22 small lines companies	EDB annual information disclosures suggest that EDBs shed about 5% of their load on average at the GXP peak, which is a sizable reduction in peak load. Distributors are investing heavily in "avoided distribution" initiatives to reduce peak demand. Investments in new smart-meter based load- management equipment are also being made, which will facilitate greater participation in load control. Community interests via ownership are a factor that incentivises distributors to respond to these price signals to reduce transmission charges for consumers.

The proposal would reduce economic efficiency of electricity supply –

- **through generators behaving less efficiently;**

Transpower	the charges may alter generator behaviours in ways that reduce the efficiency of the wholesale market. The economic costs of this may significantly outweigh any potential benefits.
Buller Electricity	If generator offer strategies do change, . . . we can expect to see less efficient prices . . . imposing additional costs on consumers which do not appear to have been adequately considered in the cost benefit analysis.

- **through the grid being under-utilised;**

Genesis	78. ...A trend towards co-location of generation and retail could also greatly increase the risk that the expanded grid will be under-utilised.

- **through reduced use of load control;**

Clearwater hydro	Networks have invested in load control and currently are incentivised to use it. Networks are the logic users of load control and they see the entire load on the network, retailers don't. Gentailers have mixed incentives as some times it may be in their interest for demand to rise, boosting the spot price. Giving the power to retailers without a balancing power from networks is extremely dangerous.

- **through least-cost generation not dispatched;**

Mighty River Power	Generators will also look to alter wholesale market offers to avoid transmission charges, which may mean least cost generation is not dispatched.

- **through inefficiently allocating charges to reflect sunk costs**

MEUG	7. We do not accept that problems with the current TPM for allocating sunk costs are material enough to justify significant changes (chapter 4) where the efficiency gains from re- arranging sunk costs are not obvious.
Transpower	There can be no dynamic efficiency benefits associated with applying a 'beneficiaries pay' approach to reallocating the sunk costs of past investments. … We are not aware of any transmission pricing arrangements that involve the perpetual reallocation of sunk costs. None of the international examples cited encompass such

	a practice. In fact, the US Court of Appeal decision that is discussed appears to caution against the practice.

The proposal would make both small retailers and small distributed generators less competitive -

Contact	Issue 6: New entrants and smaller retailers will be disadvantaged As it stands the Proposal will significantly increase risk in the electricity supply chain, risk that will be reflected in the prices inevitably borne by customers. The Proposal will disadvantage new entrants and smaller retailers and businesses.
Genesis	77. We consider that the increased volatility resulting from the Proposed TPM, and the inability for retailers to secure a full hedge, could contribute to an increased trend towards vertical integration. ... While this trend is not automatically inefficient, it . . . highlights once again the difficulties for a small independent retailer trying to establish itself in the market, particularly if trying to compete with an integrated generator-retailer with local generation.

- **and undermine the value of their investments.**

Transpower	Existing commercial structures for demand-side participation, distributed generation, and prudent discount agreements will be disrupted by shifting most transmission charges off distributors. This is likely to undermine the value of existing investments in distributed generation in particular.

Innovation would be suppressed by the loss of small retailers and generators, and the reluctance of retailers to signal benefits of demand reduction.

Energylink	smaller players will be disadvantaged by the proposed TPM, which could lead to a reduction in the number of players in this sector. Smaller players add diversity and bring innovation to the market, with a positive impact on competition and service levels.
DEUN	Innovations are now market-ready but languishing in New Zealand. These include automated household appliance control, in-home displays that enable informed response to peaks and critical peaks, photovoltaics either with sell-back to the grid, or 12- or 24-volt panels enabling water heating and backup for small applances (e.g. cellphones) during blackouts, and ultra-clean wood burning.
Genesis	If [instead of the proposal,] the RCPD charge was expanded to recover the full transmission cost, we could expect to see innovation and investment in demand response consistent with academic projections of ‘smart grids’.
NZ Wind Energy Association	Small embedded generation may well be an important part of innovation in the electricity sector. The TPM as it affects embedded generation may increase uncertainty and difficulties for these smaller players which in turn will dampen innovation in the electricity sector.

It will not be possible to hedge against some of the risks, and this could lead to financial distress.

Energylink	Introducing a substantial degree of unhedgeable risk into the market could be highly counterproductive and seems at odds with the on-going concerns over illiquidity in hedge markets and the difficulties of hedging basis risk.
Energy Market Services	Without a liquid market in products that enable participants to hedge against these risks, participants will self-hedge through regionalisation and vertical integration, or include a price margin to cover the risk. This is the current and historical position, and leads to limited competition between incumbents, barriers to entry and inefficient prices.
Tuaropaki Power Company	For a given level borrowing, any reduction in expected profits or increase in profit variability will translate into a greater risk of financial distress. In respect of the Relevant Investments, expected profits will fall to a material and possibly significant degree, and profit variability is likely to rise, as a consequence of the Proposals.

The proposal would create wealth transfers that give perverse incentives to generators, reducing security, reliability, efficiency, and asset values.

Contact	The proposal results in unpalatable wealth transfers to large industrial consumers.
Price Waterhouse Coopers	24. The EA has not undertaken a robust analysis as part of its CBA of the potential winners and losers and therefore wealth transfers which might arise from the proposal. We note the EA considers in assessing its statutory objective, that: "if wealth transfers seriously undermine confidence in the pricing process or in the electricity industry more generally, then that can inhibit efficient entry and investment decisions and these dynamic efficiency effects should be taken into account when evaluating proposals." 25. We consider the proposal will lead to significant wealth transfers across both industry participants and consumers.
Vector	We are also concerned that the SPD method (the way it calculates private benefits and its susceptibility to gaming) would result in load [consumers] being overcharged relative to generation, and that the socialisation of the HVDC costs would result in substantial wealth transfers from consumers to South Island generators.
Vector attachment	the Authority‟s discussion paper notes that wealth transfers could "undermine confidence in the pricing process" or "inhibit entry and investment decisions" (A.17b). *[actually, A.31(b)]* Optimal timing of investment decisions is a requirement for dynamic efficiency. Undermining confidence in the pricing process could, in MJA‟s opinion, detract from achieving efficiency, and is therefore relevant for efficiency considerations.
Mighty River Power	The allocation of the 50:50 residual charge will result in immediate wealth transfers for generators. This is because the proposal to levy the charge across peak injections will incentivise generators to avoid meeting peak demand and reduce investment in peaking generation plant. That, of course, has obvious implications for security and reliability of supply for end use consumers, being important statutory objectives. . . . These wealth transfers will significantly impact on generation plant asset values . . .

Asset values are already at risk, both in transmission and generation, because of the surplus of capacity in both. Transpower assets that are clearly uneconomic should be written down.

MEUG	We do believe the previous regulated processes for Transpower to gain approval for capital expenditure failed end consumers. … There also is a fundamental policy question as to whether Transmission assets that are clearly uneconomic should be written down. This is an increasingly realistic scenario as peak demand growth for grid services may decline with the emergence of new demand side response and distributed generation technologies.
Reunion Asia Pacific, report for Mighty River Power	These scenarios imply that total electricity demand growth over the next 10 years of between 2,200GWh and 5,000 GWh. Given current levels of supply surplus (including projects under construction and extra potential surplus from mothballed plant) that demand is unlikely to require significant additional supply-side investment – short of high levels of disinvestment - for the next 10 years in at least the low and medium scenarios.

Regulatory uncertainty has been greatly increased by such a radical proposed change

Mighty River Power	3.11 We believe the regulatory uncertainty created by the Authority's proposal not only has implications for the costs of future generation developments (increasing risk premiums and hurdle rates), but also for the cost of capital for other infrastructure sectors. Such uncertainty will negatively influence the overall perception that international capital providers have of the regulatory approach to infrastructure assets in New Zealand.
Trustpower	Investors in long-term infrastructure face investment risk from changes to rules. If the decisions of the regulator are not rational, predictable and aligned with overseas practice, this will raise the cost of capital and bias investments away from capital-intensive assets with long economic lives.
NZ Council Infrastructure development	we strongly oppose any attempt by the Authority to apply charges to past investment which has already been consulted and agreed upon. . . . Any retrospective changes to the methodology not only carry implications for investor certainty and wider Government policy at a time when this is most critical, but do not meet basic societal expectations of fairness.

The cost-benefit analysis of the proposal was extensively criticised.

Genesis	the CBA in the TPM proposal reads as a justification for an option that the Authority already preferred, rather than an analytical tool that helps to select the best way forward.
Vector	The Cost Benefit Analysis is no more than an elaborate assumption that there would be positive benefits from the proposal.
Price Waterhouse Coopers	24. The EA has not undertaken a robust analysis as part of its CBA of the potential winners and losers and therefore wealth transfers which might arise from the proposal.
Mighty River Power	Our commissioned analysis shows that the Authority's claimed net benefits of $173.1m conservatively **decrease to minus $182m** in net costs.

DEUN concludes from the above summary of industry commentary relevant to consumers that the Authority's proposal cannot achieve a standard of consensus appropriate for a change in the Code. Therefore the status quo transmission pricing methodology should be retained at present. In the longer term, fundamental issues must be addressed as to the meaning of "long term benefit of consumers".

2. BACKGROUND TO THIS PROPOSAL

Transmission pricing methodology has been the subject of intense lobbying for a decade or more. South Island generators now pay about $150 million per year in transmission charges.

Transpower CEG report	The EA's perceived problem with the current pricing arrangements for HVDC and interconnection assets is that there is no direct link between those who benefit from a new investment and those who pay for it. Consequently, potential beneficiaries may have an artificially strong incentive to lobby for a new investment if they know that it is other parties (non-beneficiaries) that will ultimately bear the cost.

To counter lobbying on this and other matters, the Electricity Authority was set up to be independent of ministerial interference. A consistent theme of the submissions is that the proposal will probably increase lobbying rather than reducing it.

Unlike its predecessor the Electricity Commission, the Authority interpreted its statutory objective as ignoring wealth transfers, so as to allow profit maximising even when that meant continuing consumer price rises.

This is explained in the Interpretation of the Statutory Objective:

> A.7 … the Authority's decisions will be consistent with expanding the 'size of the economic pie', whereas if direct wealth transfers are included (but indirect wealth effects excluded) then regulatory initiatives can be adopted even when they 'shrink the pie'.

DEUN has consistently challenged the legitimacy of the Authority's interpretation, and this is reinforced by a legal opinion summarised in the Vector submission:

DEUN	DEUN disagrees with the Electricity Authority's interpretation of its Statutory Objective, because we consider electricity to be an essential service that should be supplied to all classes of consumers at prices related to costs, not inflated through market power.
Vector	Vector considers that the correct legal interpretation [of the statutory objective] is that wealth transfers from producers to consumers, and vice versa, are a relevant benefit. This means that the proper test for determining long-term benefits of consumers is a consumer benefits tests rather than a public benefits test.

The Authority is required to consult on every proposal. Its Advisory Group charter requires them to strive to reach consensus.

> 3.7. If an Advisory Group is unable to reach consensus on a matter under consideration within an agreed timeframe, the Authority may request the Advisory Group to conclude its deliberations and report the differing views to the Board for consideration. The Board expects feedback from the Advisory Group which addresses the views of the minority as well as those of the majority.

This is a very big ask, for businesses whose fiduciary duty to their shareholders conflicts with their regulatory responsibilities as set out in the Authority's foundation documents.

When successive technical advisory groups failed to reach consensus on transmission pricing methodology, the Authority proposed an entirely new approach based on formal principles. It first consulted on its proposed framework - a hierarchy of transmission charging elements beginning with market and market-like charges, and ending with administered residual charges.

DEUN'S submission on the framework supported the idea of a first-principles approach –

DEUN	We agree with setting a hierarchy of parties to be charged for remaining revenue requirements of Transpower, beginning with those whose contribution to costs can be identified, and charging "residual" parties who cannot be identified in a broad-based manner.

- indeed we have widely circulated a very different first-principles approach to regulation of a competitive electricity market, by Hugh Outhred in 1992[1].

It is the highly innovative application of the Authority's framework - in particular the use of the SPD model that calculates half-hourly spot prices to also calculate up to half the transmission charge – that is seen by industry as creating unacceptable costs and risks.

3. WHERE TO FROM HERE?

Below is a sample of recommendations for further action from a selection of the submissions. DEUN and a few others recommend a return to the status quo transmission pricing methodology, saying typically that any change would be met by still more lobbying, the cost of which would far outweigh the benefit. Note that Meridian and Comalco, and also NZX, support the proposal.

Mighty River Power	Mighty River Power can see no compelling evidence in the Authority's analysis to suggest the 2011 TPAG majority proposal was not a proportionate and pragmatic solution to the HVDC issues. Mighty River Power's preferred approach is the retention of the existing interconnection charging arrangements as the least distortionary way to recover the residual charge.
Genesis	Genesis Energy does not support the Proposed TPM because it introduces unnecessary volatility and complexity into the electricity market for little or no benefit. We consider that this will ultimately lead to increased prices for end-consumers.
Contact	In Contact‟s view, significant changes to the Proposal are required before the Authority can legitimately claim the efficiency gains are realisable, and the Proposal is in the long-term benefits of consumers. … Contact advises the Authority to avoid the temptation of being an „early adopter‟ of a new system for allocating the „pie‟ and recognise that incremental changes of a smaller nature are more appropriate for New Zealand‟s market.

[1] Outhred, H.R., "Principles of a Market-Based Electricity Industry and Possible Steps Toward Implementation in Australia". International Conference on Advances in Power System Control, Operation and Management, Hong Kong, 7-10 December 1993

Meridian	The status quo is no longer an option 15 There is now a bow-wave of evidence that shows that the current TPM is inefficient. We believe there is a near-consensus that the status quo can no longer be a part of a modern and efficient electricity industry. . . . While Meridian believes that the Authority's proposal is a substantial improvement from the status quo and will deliver efficiency gains, we propose that the Authority considers some simplifications, summarised in the table below. . . In principle, Meridian supports the SPD approach.
TrustPower	TrustPower considers the Authority's proposal would meet neither the efficiency criteria nor the objective of promoting competition. We consider the long-term interests of consumers are unlikely to be served by a certain and immediate increase in energy prices, offset against a very uncertain and speculative benefit of improved scrutiny of future transmission investments. TrustPower therefore urges the Authority to review both the fundamental basis for its proposal, and the elements contained therein.
Transpower	We should not be trying to change something that is not broken. Rather than a radical departure from current arrangements, Transpower's view is that we should be holding to a stable, simple and durable approach to transmission pricing so that we can collectively direct our focus and resources at matters more likely to deliver benefits. A possible exception is the HVDC, where there are acknowledged inefficiencies in the current methodology. Elements of the Authority's approach may provide a mechanism to improve that and this should be tested through industry consultation against other options.
Price Waterhouse Coopers	If the EA is to proceed with the proposal then we support the ENA‟s calls for an industry working group to be established to investigate a limited scope of alternative options as well as provide practical guidance on implementation issues
Vector	The most effective way for the Authority to ensure the TPM is durable and stable is simply not to (further) review it. The Authority could adopt the philosophy of Spanish explorer Hernando Cortez who burnt his boats as an effective way of preventing any thought of change in course. Vector recommends the Authority adopt a clear and high threshold/burden of proof for major regulatory changes such as to the TPM to help ensure its regulatory decisions are stable and durable.
Electricity Networks Association	ENA does not consider the centre-piece of the proposal, namely the SPD-based charging method, is fit for purpose in its proposed form. What is now needed is a project and a process that builds on this and the previous TPM work and distils from it a small number of practical and well grounded proposals for the IC charge.
Unison	Unison submits that, in-line with the Code Amendment Principle 2, the Authority has provided insufficient evidence to substantiate that the proposal will address a "clearly identified efficiency gain or market or regulatory failure". Accordingly, Unison does not support any deviation from the status quo recovery of transmission charges

NZ Council Infrastructure Development	We recommend the establishment of a collaborative industry initiative led by the Authority to identify the optimum allocation of transmission costs, taking into consideration investment certainty, perceptions of equity, transition costs and long term economic efficiency.
Pacific Aluminium (Comalco)	Pacific Aluminium supports the proposal in so far as it seeks to improve the current transmission pricing methodology, albeit with some modifications which we set out in this submission.
MEUG	The industry needs clarity on what might happen next. Following on from the views on the proposal and process above, MEUG suggest the Authority: a) Does not issue the guidelines in the proposal to Transpower; b) Consults on possible next steps for reviewing the TPM taking into account that: . . . the level of grid investment for the next decade is likely to be modest at best. iv) There are many other opportunities for improvement in the market that are competing with resources that might otherwise be used on a review of TPM.
DEUN	The fundamental difference between status quo transmission pricing and the Authority's proposal is the new emphasis on "beneficiaries pay" instead of charging those parties (who we call exacerbators) whose decisions drive the highest peak demands that impose costs on the transmission system. In doing so, the proposed methodology focuses on the use of the network to promote competition between generators to supply an expanded customer base, rather than to provide a reliable supply at minimum cost. . . . In conclusion, DEUN supports the status quo transmission pricing methodology.

From the domestic consumer's perspective, incremental change will only perpetuate the faults of the present consultative processes. The only change that could give us confidence that the pricing process would be in the long-term benefit of consumers would be to revoke the Authority's interpretation of its statutory objective, and direct the regulator to recognise electricity as an essential service, as is done in all other countries.

Regulation will never achieve stability until "long term benefit of consumers" means exactly what it says.

4. CONCLUSION

The TPM proposal is just the latest in a series of regulatory initiatives that have created new risks and costs to market participants: Customer Compensation Scheme, Scarcity Pricing, Stress Tests, What's My Number … These together with a host of consultations are taxing the regulatory capability of Electricity Market Participants, especially the smaller competitors in the retail, distribution, and distributed generation sectors.

These new direct costs, and new risk premiums, are driving continuing price increases to domestic consumers. We were always told that our power prices had to rise to meet the long run marginal cost of new generation and lines networks. Now that these assets have been built there is surplus capacity in both power stations and lines. We expected prices to fall, as they would in any competitive market affected by a glut of supply. Instead, prices rose again this year.

Companies complain about the increasing burden of regulatory compliance - yet the five large generator-retailers are all able to pass the new compliance costs on to their consumers. Switching retailers only steps a consumer from one price escalator to another, while the escalators themselves deliver continuing profits to the companies, and dividends and taxes to the government.

As flat demand is suppressing the commercial returns from new power stations, the only way to maintain the dividends expected by shareholders is to raise prices. This would be helped by any exit from the market of independent businesses that could compete on the basis of price and service.

The transmission pricing proposal significantly increases the complexity of regulation. The regulator's ability to create new costs and risks, and thus support further price rises, seems to have no upper bound whatsoever.

Domestic consumers have no confidence in the pricing process.

Domestic consumers had no representatives in the advisory groups that led to the transmission pricing methodology proposal. Their nominee for the Wholesale Advisory Group was rejected. Consensus that excludes domestic consumers is no consensus at all.

The only way to achieve long-term regulatory stability would be to return to treating electricity as an essential service, in line with international practice. Transmission Pricing Methodology and all other Code Amendments must actually promote the long term benefit of consumers, not support the building of new power stations and lines in the hope of "expanding the size of the economic pie".

Table of acronyms

CBA	cost benefit analysis
CEG	Competition Economists Group Asia Pacific, report for Transpower
DEUN	Domestic Energy Users' Network
EA	Electricity Authority
EDB	electricity distribution business (the 28 local lines companies)
ENA	Electricity Networks Association
GWh	A measure of electricity consumed: NZ total demand is about 39,000 GWh per year; a supermarket typically uses about 1 GWh per year
GXP	Grid exit point: ~180 Transpower stations that transform high voltage current to lower voltage for distribution lines.
HVDC	High Voltage Direct Current - the Cook Strait cable
IC	Interconnection- the transmission lines which together with HVDC makes up the power lines managed by Transpower.
MEUG	Major Electricity Users' Group
MJA	Marsden Jacob Associates, report for Vector
NZX	the NZ exchange of listed shares
RCPD	regional coincident peak demand, Transpower's present charging measure
SPD	"scheduling pricing dispatch", the model that sets wholesale prices, and is proposed to be used to set interconnection and HVDC prices
TPAG	Transmission Pricing Advisory Group, which reported back in late 2011
TPM	transmission pricing methodology