SP AusNet™
A member of Singapore Power Group

19 December 2013

Mr John Pierce
Chairman
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Via website: www.aemc.gov.au

Dear John

Consultation on Request for Rule Change – 'Distribution Network Pricing Arrangements' (ERC0161)

SP AusNet welcomes the opportunity to provide input into this initial phase of the AEMC's deliberations on the SCER and IPART rule change proposals.

Our submission addresses the matters raised in relation to the pricing principles, and in particular to specific aspects of the proposal to introduce a requirement for pricing based on LRMC principles and locational based pricing. SP AusNet strongly endorses these principles as they are critical for providing appropriate signals for network augmentation. This submission provides our perspectives on the key objectives to be achieved through such tariffs, some detail on how they may be constructed, implementation challenges and possible transition arrangements.

It is also very timely to be conducting a review of distribution network pricing principles. It is broadly recognised that existing tariff arrangements have contributed to inefficient responses and situations where energy and network users bear an inequitable share of the network costs. It is imperative that these issues be addressed to ensure that the potential adverse impacts of such policies are not perpetuated for an extended time.

We look forward to participating in further consultation on the rule change proposal, and would be pleased to discuss this submission with you. Please contact Kelvin Gebert, our Manager Regulatory Frameworks, if we can assist the AEMC with further information.

Yours sincerely,

John Howarth

Manager Regulation and Network Strategy

SPI Electricity Pty Ltd ABN 91 064 651 118
A subsidiary of SP Australia Networks (Distribution) Pty Ltd
Level 31, 2 Southbank Boulevard Southbank Victoria 3006 Australia Locked Bag 14051 Melbourne City Mail Centre Victoria 8001 Australia
Tel 61 3 9695 6000 Fax 61 3 9695 6666 www.sp-ausnet.com.au

Distribution Network Pricing Arrangements Rule Change Request

SP AusNet Submission on AEMC Consultation Paper

---

1. Introduction

The AEMC has decided to join the IPART rule change proposal which is already in progress with the SCER rule change proposal due to overlap of subject matter. Broadly, the rule change proposals together relate to:

a. A revised distribution pricing framework / process; and

b. Reforms to the distribution pricing principles.

The proposals in the second subject area are contained in the SCER rule change proposal, and this submission is in respect of that subject area specifically.

SCER states "The rule change proposal promotes the National Electricity Objective (NEO) by encouraging development of more efficient network charges that better allow consumers to respond effectively in ways that minimise network costs over time while smoothing the transition for consumers"[1].

SP AusNet supports reform to establish pricing approaches that contribute more to efficient energy sourcing and usage decisions by consumers. This will in turn contribute to efficient network investment decision-making. However, there are various weaknesses with the proposed arrangements that need to be addressed for the reforms to be effectively implemented to achieve their key objectives. In respect of the pricing principles these are discussed in this submission. There are also issues surrounding the pricing framework / process that must be addressed, for which we refer the AEMC to the Energy Networks Association's submission.

Prior to considering the more detailed aspects raised by the AEMC Consultation Paper and proposed Rule Change we provide additional background on the need for a broad consideration of tariff reform.

2. Importance and Scope of Review

It is very timely to be conducting a review of distribution network pricing principles. It is broadly recognised that existing tariff arrangements have contributed to inefficient responses and situations where energy and network users bear an inequitable share of the network costs. It is imperative that these issues be addressed to ensure that the potential adverse impacts of such policies are not perpetuated for an extended period of time.

In this submission to the AEMC Rule Change proposal SP AusNet deals with the detailed matters that have been raised, and in particular specific aspects of the proposal to introduce a requirement for pricing based on LRMC principles and locational based pricing. SP AusNet strongly endorses these principles as they are critical for providing appropriate signals for network augmentation. This submission provides our perspectives on the key objectives to be achieved through such tariffs, some detail on how they may be constructed, implementation challenges and possible transition arrangements.

[1] SCER, Rule Change Request, 18 September 2013, page 2

Notwithstanding the scope identified for this review SP AusNet urges the AEMC to consider the need for tariff reform as broadly as possible. It is possible that changes may be implemented that seek only to deal with the investment decision signalling shortcomings of the tariff arrangements. SP AusNet considers that broader tariff reform is essential to allow the networks and the sector to be well prepared for the substantial change that is likely to occur in the way networks are used in the future, and which has already commenced. Electricity tariff structures will be a key determinant in the way in which the electricity sector evolves, and inappropriate tariff structures may compromise the most effective development of the sector and stifle desirable innovation.

2.1 Key drivers for fundamental tariff reform

Over recent years the energy transferred across networks in the NEM has declined. There are a variety of reasons for this, and while a reduction in energy use may be a desirable outcome it is conceivable that at least in part it is being driven by perverse pricing incentives. The future projections for energy are uncertain but it is quite plausible that there could be a continued decline to the end of the decade.

One of the significant issues that emerge for network businesses is the potential to drive a cycle of significantly increasing network prices, as network costs are recovered through a decreasing number of units. In other words the unit costs of the network, recovered through prices for consumers will continually increase as the base decreases. This is further exacerbated by the fact that these "units" are not strongly related to the network cost drivers under the tariff structures that have generally been adopted.

Industry commentators are drawing attention to this issue. It will require careful planning to ensure that the utilisation of network assets is maximised, and effective use is made of available assets where the costs have been sunk. However in the meantime it would be very unfortunate if the issue is further exacerbated through customer response to the imperfections in the incentives places on them through current distribution network tariffs.

While it is difficult to be precise regarding the extent to which inappropriate tariff structures are driving the specific outcomes it is intuitively clear at least that there is a real potential for this to occur. Accordingly there is an increased urgency to carefully consider the tariff structures to eliminate this possibility as soon as possible.

2.2 Impacts of current tariff structures

The concept of the "price/demand spiral" arises from the rational economic response of customers to the self-perpetuating cycle of progressively increasing unit costs (which present through energy prices) which emerges from the continuing reduction in energy consumption. This cycle is driven by the current tariff structures that are largely energy based, where customers achieve a cost saving by reducing their energy consumption, or from disconnecting from the network entirely.

While it might be expected that this phenomena could eventually emerge at a time when technology costs reduce to the extent that in-home generation provides a cheaper source of energy than a grid supply, in general at present there are very limited circumstances where the cost to the customer of providing their own energy would be lower than the ***actual cost*** of providing this energy through the grid. In other words it would be difficult in these circumstances for the cycle to start and to be sustained.

Unfortunately there are a number of distortions present in the manner in which costs are presented to the customers for grid supplies. This arises due a number of cross subsidies and other distortions present in the current tariff arrangements.

There are a number of ways in which these distortions arise from the existing tariffs. This includes the direct subsidies that have been offered to customers to take such action.

However it also arises from the existing tariff structures. There are two main factors that lead to the distortion in the current tariff structures, and where reform is necessary to mitigate the uneconomic impacts of reducing network use:

Network prices do not reflect costs

Network costs are largely fixed in the short term, and a considerable portion is also fixed in the long term as well. However under typical tariff arrangements the major portion of these is recovered from customers through variable energy based usage charges. The reason for this is largely historic as fixed price components are unpopular with customers and policy makers as they are considered regressive, penalising lower users of energy. Fixed network charges also present a problem for retailers as they are restricted in their ability to pass these through to customers for the reasons noted above.

However from a network perspective the recovery of fixed costs through an energy charge is distortionary. It signals to users that they can reduce their charges by reducing their energy use, perhaps by substituting grid supplied energy by their own source, when in fact it does not reduce the cost of providing them with the network service.

Tariff reform is required to remove this distortion as soon as possible as it has already led to energy sourcing investment which is uneconomic. As noted, achieving such a change can be expected to be challenging from social and community perspectives.

Locational prices

The costs of providing a network vary greatly with location. There are many more assets required to provide supply to a remote rural location compared to an inner urban area. In addition the customer base from which these costs would ideally be recovered is very much smaller than is the case in an urban area. Therefore it would be expected that the actual unit costs of providing network services to a remote rural area would be very much higher than for a densely populated urban area.

Network prices are not determined on this basis. Locational prices are likely to give rise to community concerns since they would result in significantly higher prices for electricity in rural areas. In Victoria, this would lead to claims of unfair discrimination against rural communities and frustrate the various Government policies that have actively promoted decentralisation.

The result is particularly evident in SP AusNet's region since there is a very significant geographic diversity. The result is that rural customers are paying less than the actual cost of providing the network services, through the averaged prices. Urban customers are faced with higher charges, although the greater number of urban customers limits the percentage difference in the latter case.

A possible outcome from this distortion is that urban customers, who have a reliable low cost grid based supply, have additional incentives to reduce their consumption or supply their own energy needs as a result of the relatively high network charges (compared to the actual cost) imposed on them through the averaged tariff. There is no economic case for this.

Conversely remote rural customers have an incentive to reduce usage, but the incentive is very much less that the actual cost of providing the network. There are some circumstances where it may be economic and beneficial to replace grid supplies with self-sufficiency, but the signal to do so is dampened by the averaging that is applied to network prices across the franchise region. In other works the price signal might be dampened.

Of course the actual price signal needs to reflect the discussion in the previous section, and needs to reflect the costs that can be reduced through reduced network usage. All price signals are currently exaggerated through the existing energy based tariffs as previously noted.

2.3 Constraints on outcomes

Even if this review is successful in identifying preferred approaches for tariff reform there appears to be a high probability that changes that may be sound from an economic and industry perspective will be modified to achieve broader policy objectives. This has always been an issue in the area of electricity tariffs where there is a history of situations where legitimate social policy objectives have led to compromise outcomes for tariff design. The most obvious example is the uniform tariff policies that have persisted for many years and the relatively low fixed charge applied to network bills despite the fact that a large portion of the cost is fixed. In these circumstances it is apparent that jurisdictions may decide not to implement the proposals in full.

A recent example that illustrates the challenge in achieving true reform of tariff structures was the introduction of flexible tariffs in Victoria. Even with the technology in place to allow such tariffs to be implemented this process was protracted and difficult. A Government moratorium was applied for a number of years against their introduction pending consideration of customer outcomes. A collaborative process was followed, involving significant stakeholder debate, to achieve a level of agreement on the tariff structures and ultimately involved very significant compromises in the final network tariff proposals. Even then, while these tariffs may be considered an initial step in the right direction, they fall somewhat short of addressing some of the critical tariff matters.

SP AusNet recognises that broad acceptance of the proposals will be required, but would urge the AEMC to consider appropriate transition arrangements as a means of protecting customers interests while achieving necessary reform for the longer term.

2.4 Need for broad review

Electricity tariffs provide the mechanism and incentives for customers to monitor and control their usage of electricity. It is therefore important that appropriate and economic price signals be provided to facilitate the most economic outcomes. This review is aimed at addressing some of the well identified shortcomings of the current arrangements. It seems to have been driven primarily by concerns relating to network regulation and investment, with the linkage that poor tariff structures may lead to inefficient usage, drive uneconomic investment in the networks and lead to higher costs for customers.

In addition to these factors, which have always been important, it is also necessary to recognise that there are evolving changes that will greatly amplify the importance of the outcomes of this review, and may require a broader review of tariff structures in the near term. These issues include:

- **In the shorter term the expectation that customers will become much more heavily engaged with their electricity supply and consumption.**

  New technologies and significant information from smart meters provides customers with unprecedented information and knowledge to change their behaviour. At the very least this means that it is much more likely customers will more actively respond to any incentives provided through the tariffs than at any previous time, greatly exacerbating the implications of any inappropriate incentives, and possibly for the first time leading to more serious examples of inefficient development.

- **In the medium term the changes that are rapidly occurring in energy use and the extensive range of options and devices that residential customers may employ to service their energy needs.**

  It is widely anticipated that this will lead to a change in the nature of energy services, particularly those provided by network businesses, and also in the role of the network businesses in providing those services. If the energy supply sector is to develop as efficiently as possible it must not be inhibited by traditional tariffing arrangements that were developed to ensure smooth processes and effective outcomes in quite a different environment.

As a consequence it is essential that any changes to tariffs arising from this review do not compromise the future development of the industry. SP AusNet consider that any substantial move to more economic and efficient tariffs, will be consistent with achieving better longer term outcomes, even allowing for an uncertain future environment, but would encourage the AEMC to take a bold approach and take significant steps to establish more economic tariff structures, as outlined in the main body of this submission.

However SP AusNet considers that more work needs to be done to ensure that proposed tariff arrangements are consistent with an evolving industry structure. It is recognised that this may be a very difficult task given the level of uncertainty that surrounds the future. We acknowledge that some aspects are likely to be beyond the scope of the current rule change proposal. However SP AusNet considers it is important for the review to be cognisant of the evolving energy supply economy within which the revised pricing principles will sit.

Most critically the pricing arrangements must be capable of accommodating future change, rather than constraining it. We would encourage the AEMC to consider broader tariff reform during the review in this context. To the extent this is beyond the scope of making rule changes the AEMC could recommend a broader review arising from its findings during the review.

2.5 Separation of network bills

One approach that SP AusNet considers is worthy of further consideration as part of a broader review of pricing, and perhaps industry structure in general, is the potential for unbundling of the network and energy tariff. The option of separate billing for energy and network services may be an advancement that is more consistent with the changes likely to occur in the nature of the industry in the future, the blurring of services between energy and network services and the desire to further develop the competitive nature of the industry, particularly with proposals for smart metering to be rolled out on a competitive basis in the future.

Unbundling and separate network billing may offer the following advantages in the future:

- Ensure that any price signals established for the use of the networks (as agreed by regulators) can be passed on directly to customers without being potentially distorted in the way they are passed through by retailers;
- Provides a platform for NSPs to enhance efficient non-network solutions and offer additional network services and benefits;
- Greater transparency and a direct customer relationship will ensure that network businesses become more customer orientated and improve the delivery of regulated services, and promote recent Rule Changes to ensure customer engagement is part of the regulatory determination processes;

- Facilitate the integration of network benefits and energy market benefits, which will be the key to unlocking the maximum potential from future innovations.

We recognise that such structural reform would require much more detailed consideration in a broader review of the future of the industry before it could be seriously contemplated.

2.6 Summary

SP AusNet considers that tariff reform is one of the key issues to be considered to improve the performance of the electricity sector. Its level of importance has been raised significantly both by concerns over inefficient network development and their impact on prices. In addition the manner in which the industry is changing, the unprecedented amount of information available to customers and their increasing engagement with their electricity supply choices makes efficient pricing a critical industry requirement.

The rapidly evolving technology and changes in the role of current participants and the services provided will also require longer term consideration of tariff structures to ensure that the most economic development occurs in the longer term.

The industry is changing rapidly and it is important that such broader consideration be given to tariff matters to ensure it does not result in unexpected and uneconomic outcomes for the future development of the industry. The proposals in this rule change go part of the way to achieving this outcome, and the balance of this submission focusses on these aspects in more detail. However SP AusNet considers that further steps beyond this process may be necessary to ensure robust development of the sector over the decades ahead.

3. Required Pricing Principles

The SCER rule change proposal focuses specifically however on the network augmentation signal (LRMC). This is possibly because the rule change proposal emanates from the AEMC's Demand Side Management Review, which examined and sought to remove barriers to demand side alternatives to network augmentation. However, there are other 'forward looking' 'cost reflective' price components that can also provide valuable network pricing signals to consumers, albeit with a longer term consumer response time-frame.

Cost reflective pricing can contribute to network management decision-making that most effectively meets the needs of consumers into the future. With rapid technological developments in distributed generation solutions, notably solar panels, and potentially similar advances in storage technology the role of distribution networks is being reshaped. Tariff reform needs to account for this dynamic, mainly through increased pricing flexibility.

3.1 Cost Reflectivity

Both the rule change proposal and the consultation paper treat LRMC and cost reflectivity and not only synonymous but interchangeable. For example, the consultation paper observes that "The requirement to use LRMC as the primary means of setting cost reflective network tariffs is the most important aspect of the proposed changes to the distribution pricing principles"[2].

However, there is considerable variation in views as to the cost components that might be captured by LRMC. The consultation paper tends to bind this to network augmentation costs. It observes that "LRMC is the cost of supplying a good or service over a period

[2] AEMC, Consultation Paper, 14 November 2013, page 54

time when all costs become variable. For distribution services, this includes the cost of the additional infrastructure required to meet a marginal increase in demand"[3]. A similar definition, which the consultation paper adopts from the Power of Choice Review is "the present value cost of bringing forward network capital and operating costs to meet a particular user's sustained incremental derived demand for the relevant network service"[4]. In the remainder of this submission our use of the term LRMC takes on this meaning.

All other costs are considered fixed, or sunk. SP AusNet query's whether some of these do not also have a forward looking variable component, albeit the variability arising from consumer response will arise over a different, much longer time frame. If this is so, then the 'cost-reflective' pricing may be a broader concept than is typically viewed as LRMC.

The cost categories we refer to would include asset renewables expenditure, special network safety expenditure, and operations and maintenance expenditure, which can make up the majority of future costs, especially in periods of low demand growth. The associated 'cost to serve' may differ across the network. The level of these costs is not materially dependent on network throughput, but what constitutes efficient practice may be modified over time by consumer choices. If consumers are exposed to the costs through cost reflective pricing they will have the opportunity to respond.

The 'cost to serve' price signal is likely to be weaker than an LRMC price signal, in situations where a network capacity constraint is impending. However, in the current environment, characterised by declining demand for market sourced electricity, deferral of network augmentation is occurring in parts of the network. A strong LRMC signal is therefore likely to be localised.

The rule change proposes that the pricing principle be strengthened, such that prices are to be 'based on' LRMC. The non LRMC component is referred to in the rule change proposal and consultation paper as 'the residue'. From the discussion above it may be concluded that the residue may be the significant component of the price. It would be concerning if this outcome could be perceived to be inconsistent with the intention of the pricing principle. An alternate term which gives meaning to 'based on' as 'the starting point' would be preferable.

SP AusNet accordingly suggests that there is a need for the AEMC to explicitly define LRMC, and to explore whether a broader concept of cost reflectivity would provide more effective pricing signals to consumers.

3.2 Locational Pricing

SCER's rule change proposal specifically introduces locational pricing into the calculation of LRMC. As noted earlier in this submission, in a 'low load growth' outlook the LRMC signal will be localised, and perhaps present sporadically across the network over time. The pricing signal would be muted if it was averaged across the network. Consumers would not be able to respond.

Logically therefore, locational pricing should accompany the mandating of LRMC, or a broader concept of cost reflective pricing. The SCER's objectives will not be realised otherwise.

It would not be expected that a cost reflective LRMC would penalise consumers in any network location in terms of meeting the cost of network services over the long term. However, there would be an increased level of price volatility as impending network constraints draw near (local LRMC rises) and are addressed (local LRMC falls).

[3] Ibid, page 55
[4] Ibid, page 58

SP AusNet suggests that further modelling is warranted to demonstrate the impact of LRMC on consumer prices.

The use of a broader 'cost reflective' pricing approach would be more likely to cause a permanent re-distribution of network costs toward those areas of the network with lower customer density. The impact for customers would depend on the granularity employed. There are sound reasons in support of the introduction of locational pricing at this level, as discussed in Section 2 of this submission.

However, and notwithstanding the economic signals provided by this pricing approach, it is unlikely that jurisdictions would embrace such a re-distribution of network costs. SP AusNet has given some thought to this problem and suggests that a rebate scheme could be developed which presents the price signal to consumers in a way which encourages them to respond, and separately compensates them the locational pricing cost redistribution. With the roll-out of smart meters, take up of roof-top solar, and through other means, consumers are becoming much more sophisticated. A scheme of this type may receive broad support.

3.3 Recovery of Residual Network Costs

The SCER rule change proposal retains the existing principle in relation to recovery of residual costs, but proposes that the AEMC consider which mechanism is most appropriate. The existing principle is for residual costs to be recovered in a way which is least likely to distort the efficient use of the network. SCER notes that the two approaches typically adopted by NSPs, Ramsay pricing and postage stamp pricing, both meet this principle. NSPs may apply both approaches in the build-up of the tariff structure.

The principle as it exists provides clear direction, and provides the flexibility that is required for NSPs to effectively implement its intent. Further prescription is not only unnecessary but would potentially weaken the effectiveness of the principle by constraining NSPs from applying the most appropriate approaches to their circumstances.

4. Methodology for Calculating LRMC

The consultation paper notes that there are a number of LRMC methodologies, and debate amongst commentators about their relative merit, presumably in respect of being 'fit for purpose'. The consultation paper notes for instance that the Average Incremental Cost approach dampens price changes over time compared to other approaches. Some literature suggests that an alternative, the perturbation approach, cannot be practically applied for monopoly networks.

Preferably a common approach would be established. This would provide for a consistent price signalling basis. If LRMC is to be mandated as the foundation for prices, then the degree of expectation for full cost reflectivity should be captured in the approach. In addition, the approach should be straight forward in terms of understanding for all stakeholders and in application by NSPs. A common approach, and providing clear guidance, would facilitate stakeholder understanding.

These characteristics for the approach lend the prescription of the approach to an AER guideline. The objective for the LRMC guideline would be contained in the Rules, subject to consultation under this rule change proposal. The method would be defined in consultation with stakeholders, and specifically in close consultation with NSPs would be necessary to ensure practical application. The approach would be similar to the

approach applied in other areas of the regulatory regime where a common approach by NSPs is most rational, such as the regulatory investment tests.

5. Retailer Pass-through of Network Costs

The rule change proposal does not intend that retailers should be required by the rules to pass through network costs in retail tariffs (unbundling). In principle SP AusNet supports enhanced market freedom, suggesting that retailers should retain flexibility in pricing. Competition amongst retailers would be expected to ensure one to one correspondence of network tariffs and retail tariffs as there is potential for retail cherry picking if close linkage is not maintained. This depends on retail prices being de-regulated however, as jurisdictional constraints may impede retailer strategy.

However, in the presence of cost reflective pricing, and if a re-distribution of network costs may be envisaged such that a rebate scheme may be employed, mandated unbundling becomes necessary. The operation of a rebate scheme would not be feasible without full pass-through of the network tariff.

It is unclear how a pass through requirement may impact in retailer systems. However, comments made from the floor at the AEMC's public forum in Melbourne on 27 November 2013 indicate that this may require examination. An alternative that should be considered by policy makers, and is discussed in Section 2 of this submission, is separate billing.

6. Pricing Structure

The rule change proposal notes that the tariff structure must comply with relevant jurisdictional instruments (proposed clause 6.18.5 (b) (3)). Whilst the reality of this provision is self-evident, it is a concerning inclusion. It is also potentially in direct conflict with elements of the preceding principles, unless the jurisdictional instruments are in effect derogations from the Rules.

The major concern is that potentially the jurisdictions are promoting efficient principles for pricing to be included in the Rules, yet no jurisdiction may actually apply them. SP AusNet considers that as part of the rule change process, jurisdictions should be required to present accompanying derogations to reflect how the proposed rules may actually be implemented, and whether the rule changes are meaningful.

Uncertainty regarding jurisdictional response to issues arising in the implementation of the revised pricing principles places NSPs in an unenviable position. NSP consultation with consumers cannot be relied upon to achieve consensus between consumer expectations and the faithful implementation of the pricing principles.

Experience in Victoria with the establishment of smart metering is illuminating. At the last Victorian electricity distribution price review SP AusNet introduced time of use pricing (i.e. LRMC based pricing) in accordance with the Rules and this resulted in a moratorium being placed on this form of tariff. Subsequently the government has assumed control of time of use pricing, and granted small customers the choice as to whether and how time of use tariffs should apply to them.

NSPs require increased certainty on how they can comply with the pricing principles in light of proposed sub-clause 6.18.5 (b) (3).

7. The impact of changing network utilisation

The increasing installation of distributed generation, particularly on-premise generation, will potentially lead to a change in the role of the network. It is feasible to envisage a network of the future where the dominant role is in providing energy connectivity, compared to the primary energy supply source that we are accustomed to.

There are significant policy issues to be considered in this area, which have been brought to the public's attention most recently via the CSIRO Future Grid Forum report[5]. These are discussed in Section 2 of this submission, and are largely beyond the scope of the Rule Change proposal.

However, encouragement of efficient demand response, including on-premise generation, is central to the rule change. The AEMCs considerations should therefore consider whether greater clarification is necessary in the rules to facilitate efficient charging of this class of customer (prosumers).

Volume based charges have traditionally been applied by NSPs as the stock tariff component, and still form a large part of tariff design. Volume based charging has been necessitated by the absence of interval metering to capture consumer demand[6]. Prosumers have reduced volume, but generally would not exhibit a similar reduction in peak demand, and additionally will deploy the network to export excess generation to the market. This class of network customer is therefore subsidised by other network users.

The rule change proposal requires a shift to tariffing designed on demand, to provide the LRMC price signal. Whilst most consumers are not impacted by a shift to a peak demand focussed tariff, prosumers will see higher network costs. Prosumers and related stakeholder groups may resist this correction.

The relevant principle in the Rules, clause 6.18.4 (a) requires clarification. The provision relates to the assignment of customers to tariff classes and states:

> *retail customers* with a similar *connection* and usage profile should be treated on an equal basis – clause 6.18.4 (a) (2);
>
> however, *retail customers* with micro-generation facilities should be treated no less favourably than *retail customers* without such facilities - 6.18.4 (a) (3)

These provisions can be interpreted such that:

- Prosumers may be treated as a distinct class based on their unique connection and usage profile
- A peak demand charge may be included in the tariff for a prosumer provided this is equivalently included in the tariff for other small customers
    - It should be noted that this constrains the tariff design where mass deployment of interval metering to small load only consumers has not occurred
- The tariff design cannot contain a component reflecting the additional energy export usage of the network.

Pricing arrangements developed over time within jurisdictions have ruled that changing a customer's meter does not provide justification for changing their tariffing basis. The

[5] CSIRO, Change and Choice – The Future Grid Forum's analysis of Australia's electricity pathways to 2050, pages 8-9

[6] It is noted however that interval meters are installed as part of an on-premise generation facility, providing the data necessary to apply a peak demand tariff component.

Rules should ensure that when interval meters are installed, and cost reflective pricing can be applied, that such provisions do not persist in any applicable instrument which would create an inadvertent inconsistency.

ATTACHMENT: Responses to AEMC Questions 21 - 46

RESPONSE TO AEMC QUESTIONS

Question 21

What would be the likely impacts on customers of making an LRMC approach mandatory?

As generally understood LRMC is focused on future augmentation investment. LRMC is not the only forward looking 'cost to serve' element, and consideration could be broadened to consider those future costs of providing a suitable network which are discretionary in nature. This may include asset replacement and operating and maintenance costs. LRMC is the capacity constraint pricing signal, but there may be significant differentiation in asset replacement costs across the network resulting from customer density, and network exogenous environmental factors.

The rule change proposal is for locational based LRMC pricing. This is desirable as the need for augmentation varies across the network, depending on the stage in the investment cycle and the growth in the area. A network wide average LRMC pricing would distort the pricing signals, and potentially delivering inefficient pricing, by muting the pricing signal for those sectors of the network which were nearing their maximum capacity and imposing a capacity constraint signal sectors of the network where augmentation is not envisaged for a long period of time.

Locational LRMC pricing may create a higher level of volatility, depending on how it is to be assessed. However as noted above, it is strictly a forward looking incremental capacity driven signal, and therefore will remains only one component of the overall network tariff, and possibly quite a small percentage of the overall tariff.

SP AusNet acknowledges the efficiency characteristics of LRMC pricing, which have been documented many times (e.g. NERA 2006, Power of Choice Review Final Report).

LRMC pricing is unlikely to create a shift in allocation of network costs to particular locations in the long term, i.e. on average over time, provided there are not dramatic swings in the usage by customers in a particular area. However depending on the precise approach adopted for the calculation of LRMC prices it is likely that customers in each area will see the LRMC component rise and fall over time.

This is an economic signal and provides customers with the opportunity to identify if there are other energy usage and supply options that may be more cost effective as the LRMC component rises.

LRMC is not the full complement of a 'Cost reflective' price. A cost reflective price signal would not be as volatile, but would be a higher component of the overall tariff, and would have permanent locational impact, if other 'forward looking' cost components were included in the 'cost reflective' price signal. These include asset replacement costs, and operating and maintenance costs. These costs may also be unavoidable in continuing to provide the network service in the short term. Providing these signals is unlikely to have any material impact on prices in the short term but may assist in influencing more efficient network services in the longer term.

If a broader 'cost reflective' price signal was provided, with permanent locational

impacts arising, it may be necessary to establish a transitional arrangement to allow customer impacts to be managed. One approach may be for an equalization scheme to be put in place, which would not mask the price signals, but provide some overall cost relief for significantly adversely impacted customers.

Question 22

What would be the impacts on DNSPs of making an LRMC approach mandatory? Does it result in increased compliance risk?

Having prices based on LRMC will have several affects.

As the proposal is for LRMC to be locational, NSPs will need to establish additional tariffs. This creates an additional layer of complexity for all parties involved, in establishing, reviewing and approving the tariffs. It could also be expected to impose additional complexity for retailers, as they will also need to be able to translate these prices into their systems. This challenge as was noted at the AEMC forum.

The optimal level of dis-aggregation of network geography and the extent of the locational differences adopted for LRMC pricing will need to be determined. This should be assessed by considering the level of disaggregation beyond which the additional transaction costs would exceed the benefits that would be delivered by this approach.

The determination of LRMC prices is not an exact science and is open to considerable debate. Generally utility industries have used the Average Incremental Cost approach, however in the Power of Choice Review the AEMC recommended use of the Turvey approach. If applied, this approach would result in more volatile outcomes, and it has been assessed as less practical to apply. As a result there would be increased cost on the network businesses and additional compliance risk due to the more uncertain outcomes from this approach.

It is anticipated that the application of LRMC in tariff setting will be assessed by the AER in approving the tariffs. Given the range of possible approaches to the determination of LRMC SP AusNet is concerned that it is quite likely that the AER will query the approach that is used by the NSP in calculating the prices. This will lead to more extensive re-analysis and submissions, protracted tariff approval times, possibly tariff substitutions by the AER.

To overcome these issues SP AusNet considers that it would be highly desirable for the AER to provide a greater level of guidance on the approach to be used. Even if this is the case it is likely to significantly increase the compliance obligations for NSPs from those presently faced in preparing their tariffs.

Ideally a balance needs to be struck, where cost reflective pricing is the basis for pricing, the NSPs have ownership of tariffs and flexibility and incentive to price efficiently, but with clearly understood approaches for which it is clear to both the AER and NSPs are consistent with achieving economically efficient tariff structures and prices.

Question 23

How limited will DNSPs be in basing prices at LRMC if they must first comply with jurisdictional instruments?

The foremost requirement is for an efficient NEL / NER framework to be established. It should not be compromised by whether or not jurisdictions are

reluctant to adopt this efficient framework.

In reality, LRMC based pricing is unlikely to be able to be implemented in a meaningful manner due to the lack of interval metering capability to implement it in most states. However even in this case it would be important to determine the most efficient pricing, and apply specific compromises to provide consistency with the available metering. This may provide some valuable information on the potential benefits from smart meters.

An efficient framework for cost reflective pricing will give jurisdictions greater clarity on what protections will be necessary to allow them to adopt the framework. The introduction of transition arrangements or an equalization scheme as noted above may be deemed necessary by a jurisdiction.

An impact on NSPs is that in the presence of jurisdictional requirements the NSPs pricing proposals can be perceived to be poorly constructed when marked against the criteria. It will be important for each of the AER and jurisdictional bodies to transparently and consistently present the divergences from the Rules that apply to the NSP.

Question 24

Should LRMC be defined? If so, what level of detail would be appropriate?

SP AusNet considers that LRMC should be defined as there is no agreement as to what the term actually measures. In SP AusNet's view the term should reflect the price signal associated with developing capacity constraints.

However, thinks AusNet considers that the term 'cost reflective' should also be defined, to accommodate other forward looking costs of providing network service. Within this framework the LRMC price could be identified as a subset of the more expansive pricing set. The rule should require prices to be cost reflective and to incorporate the LRMC component as a component to cover future augmentation needs.

There is no common approach for the calculation of LRMC prices and even some debate on its principles and objectives. SP AusNet considers that a common approach would be best. Rather than being embodied in the rules SP AusNet considers that this should be developed by the AER as a Guideline, in a similar manner in which the RIT has been developed and implemented.

This would allow the NSPs to develop prices with a degree of understanding and confidence in the manner in which the AER will assess them. This is important to provide a more professional engagement on tariff development, given the more significant role of the AER in approving tariffs based on compliance, and also to ensure reasonable consistency, so that comparative outcomes can be observed, and understood. Overall this will facilitate better conformance with the objectives of the rule.

It would also provide an avenue for the AER and stakeholders, NSPs in particular, to examine the options and conclude a most appropriate model, and would ease the pricing submission and review burden and costs for the NSPs and the AER. It also would readily allow for revision of the process with experience. This would be preferable to identifying a particular approach in the Rules.

One detailed matter which raises some concern for SP AusNet is that the term 'based on' and 'residual' as used in the rule change proposal and AEMC consultation documents could infer that by and large the network revenue

requirement will be recovered through the LRMC component. This is unlikely to be the case, in particular in an environment with slow or no demand growth on the network (average). It is likely that the LRMC will recover only a small portion of the overall regulated revenue requirement. Whilst 'based on' can be read to mean 'starting point' we think this needs to be clarified in the construction of the principle.

Question 25

Should one methodology apply to calculating LRMC or should multiple methodologies be allowed? Which is/are the most appropriate methodology(ies)?

Yes. Refer Q24

Question 26

Should the AER be required through a guideline to specify the methodology or methodologies of calculating and applying LRMC?

Yes. Refer Q24

Question 27

What is the impact of coincident peak demand on network costs and how are these additional costs currently recovered in network tariffs?

The rules do not constrain NSPs from applying an LRMC cost basis based on demand, however this has been significantly compromised by jurisdictional requirements, for example for postage stamp pricing. Even the existence of the side constraints impacts this to an extent.

SP AusNet has adopted a range of mechanisms for signalling the coincident peak network utilization driver of network costs. These include:

- Critical Peak Pricing: all industrial and commercial loads with annual consumption above 160MWH with Type 4 metering
- SP AusNet flexible time of use tariffs, targeting periods of high demand (time of day, seasonal basis). This is an optional tariff for users, introduced in 2011 but subject to a moratorium by the Victorian Government until 2013
- The flexible tariffs introduced as part of the Victorian Government flexible pricing initiative. This is a 3 part interval time of use tariff, however is not seasonal and hence has limited ability to reflect peak demand usage). This is an optional tariff for users.
- Inverted block single rate tariffs (which assume that larger users have higher demand coincident with network peak). This will be closed once smart meter rollout is completed

It should be noted that NSPs can have difficulty mandating tariff changes on customers, hence attaining the objectives of their introduction, including a shift in usage, when there are clearly winners and losers (note our optional tariff above). This may be problematic to achieving the objectives of cost reflective pricing.

A process of customer education is necessary to ensure a smooth transition to cost reflective pricing, particularly prices that include elements such as demand that are not currently applied to all customer classes or at material levels.

The Rules for metering provision currently provide for meter type based on annual

energy use and the Rules for tariff assignment are also based on annual energy use. If LRMC is to be the basis for pricing, then greater flexibility is necessary such that a demand threshold should also be adopted as a determinant for the meter provision and tariff assignment.

Question 28

How should LRMC pricing reflect additional costs associated with coincident peak demand and what are the practical impediments to DNSPs adopting tariffs that reflect coincident peak demand?

As noted earlier, the LRMC should be locational, based on network disaggregation derived by the NSP (refer Q29) and relate to the coincident peak load for that location (or network sector).

There is possibly no technical impediment, but establishment and management of a robust LRMC locational determination may be very resource intensive.

Question 29

How important are locational pricing signals for distribution networks? Are locational pricing signals for some types of customers more important than others?

Locational pricing signals are important for all types of customers. This is increasingly important for small consumers as alternative energy sourcing develops.

NSPs should have the flexibility to apply locational pricing down to the level of customer disaggregation where it determines that net benefit can be demonstrated, taking into account transaction issues and costs

Question 30

What are the practical impediments to DNSPs adopting tariffs that reflect locational pricing signals?

Refer Q22, Q27, Q29

Question 31

Is an additional principle required to further encourage network prices which are based on the drivers of network costs to the maximum extent possible?

Refer Q21. The principle should be for 'cost reflective' pricing and LRMC should be an identified component

Question 32

What are the pros and cons of using a Ramsey pricing approach or a postage stamp pricing approach?

NSPs use both Ramsay pricing and postage stamping approaches, as may be relevant to the circumstances. The NERA report (2006) strongly supported Ramsay pricing. The Rules should require a least distortionary approach, as is proposed by the SCER rule change. No specific method should be mandated.

Question 33

Are there any other pricing approaches that should be considered to recover residual network costs?

The Rules provide the appropriate principle guiding how residual costs are to be recovered. Within this guidance NSPs should have the flexibility to apply approaches (typically Ramsey pricing and postage stamp pricing) most applicable to the circumstances

Question 34

Should an approach or approaches be specified in the NER or an AER guideline?

The principle set out in the Rules at present provides the guidance required for recovery of sunk cost. The Rules should provide the scope to allow individual networks to propose alternative approaches as part of an integrated revenue and pricing framework within the regulatory determination process.

Question 35

What jurisdictional instruments or requirements could limit the ability of a DNSP to comply with any requirement to base tariffs on LRMC (including where that LRMC may vary with customer location or with different local peak demands)?

Ref Q23

Question 36

What are the potentials impacts of a NER requirement for DNSPs to comply with jurisdictional instruments?

Refer Q23

Some jurisdictional obligations would appear to be inconsistent with the proposed pricing principle objectives. Compliance with these would dampen efficient network price signals. As noted in the Consultation Paper, the obligations to comply may diverge from the national electricity objective.

Greater transparency of jurisdictional divergence from the pricing principles is

necessary so that ultimately consumers are able to influence more efficient policy direction.
Question 37 *Should a requirement for DNSPs to take into account the impact of tariffs on consumers be included in the pricing principles?*
It is unclear how an NSP should make qualitative judgment on relative capability to pay when the primary principle is for prices to be based on LRMC. The requirement is in conflict with this principle. However, the requirement would be more applicable to the recovery of the residual component, and hence more appropriately linked into clause 6.18.5 (c).
Question 38 *If a requirement is included, does the proposed principle provide enough guidance on how it is to be complied with, or would an AER guideline be useful?*
If the requirement is restated as proposed in response to Q37 then no further guidance would be necessary. Alternatively, if retained as presented in the rule change proposal its implementation would be problematic.
Question 39 *If a requirement is included, does the proposed principle conflict with other principles within the NER?*
Refer Q37
Question 40 *Should network tariffs reflect transmission pricing signals? If so, what would the most appropriate way achieve this for different types of network customers?*
Unbundling of energy bills for all customers would support consultation on tariffs and accordingly would be an advance in arrangements. This must include transmission pricing unbundling from distribution. Accordingly, network tariffs should reflect transmission pricing signals. In practice this may prove difficult and complex. Transmission pricing arrangements may need to adapt to facilitate implementation, DNSP metering capabilities will need to align to transmission metering, and then there are unknown retailer issues

Question 41

Is the change to a mandatory requirement to group customers into tariff classes likely to achieve the desired outcomes?

It may be appropriate that the requirement to group customers into tariff classes on an economically efficient basis be made mandatory, provided the distributor has the flexibility to establish the classes and the constituents

Question 42

Is the change to a mandatory requirement to group customers into tariff classes likely to result in inconsistencies within the NER or with any jurisdictional instruments or requirements?

There are no apparent inconsistencies within the NER or with jurisdictional requirements.

Question 43

Is the proposal to apply side constraints across regulatory periods likely to materially benefit consumers by protecting them from price shocks?

The side constraints, both across periods and within period, appear to contradict the intention to introduce either LRMC or a broader notion of cost reflective pricing.

As a result, the side constraints will dampen the price signal and will not benefit consumers in the long-run. If they are in fact effective they could well constrain the benefit of an LRMC signal, such that it will have disappeared altogether (through augmentation) before customers have had the chance to respond.

There are ways to provide protection outside of price setting, as discussed in the submission

Question 44

Is the proposal to apply side constraints across regulatory periods likely to lead to inconsistencies with other requirements in the NER?

We do not think this would be the case. The application of side constraints across regulatory periods has existed previously in Victoria. However retaining side constraints generally will certainly cause internal inconsistency with the pricing objectives, per previous question

Question 45

Are there likely to be implementation issues in applying side constraints across regulatory periods?

Refer Q43, Q44

Question 46

Should network tariffs of customers with interval meters or other types of time-based meters be subject to side constraints?

Refer Q43