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Dear Dr Tamblyn

Total Environment Centre Rule Change proposal
Demand Management and Transmission Networks

This submission addresses the rule change proposal put forward by the Total Environment Centre (TEC).

The NGF supports the implementation of economically efficient demand management initiatives in the NEM. Demand Management (DM) should form part of the competitive markets response to high energy prices and, may be the most effective response to "needle peaks" on extreme days. Unless undertaken on a competitively neutral and transparent basis, implementation of demand management through the regulated transmission or distribution businesses without parallel assessment of other potential solutions risks distortion of the competitive market. As a consequence, higher delivered energy prices for consumers could be caused.

The NGF supports the concerns raised by the TEC[1] that, because transmission and distribution networks are natural monopolies, there is a lack of competition for network businesses and consequently there is a risk that they may not carry out their investment in the most efficient manner.

This concern arises in any situation where the networks are to consider non-network alternatives to the expansion of their own asset base and has been the subject of past Rule changes.

The regulatory framework is intended to address these issues and to ensure that the outcomes from regulated sector approach as closely as possible the outcomes from a competitive market by explicitly requiring the NSP to consider non-network solutions in conjunction with network solutions, but it appears that a bias remains.

[1] Total Environment Centre: Rule change proposal - demand management and transmission networks, Page 6

The TEC says that this bias in the structure and regulation of networks results in

- "artificially low requests for DM services, and
- very little examination or implementation of non-network solutions being undertaken.

The TEC concerns may be valid, but no evidence is provided to support these claims. As will be discussed later, there are reasons why DSR is not an effective alternative to network. What is required is an evaluation of the reasonable levels of DSR that would occur in an efficient market. This could be as simple as examining markets where a single operator provides all services and therefore has an incentive to focus on efficient supply[2]. The NGF notes that the AEMC is itself examining DSR uptake in the NEM and could usefully determine what proportion of DSR should be contemplated prior to further examination of Rules changes to support it.

The focus of the TEC Rule change appears to be on "barriers to the uptake of DM by transmission networks which arise from deficiencies within the Rules" as a consequence of;

- Planning processes in the Rules,
- Information asymmetry between DM providers and NSP's,
- Uncertainty in the Rules re the recovery of DM expenditure,
- Insufficient reference in the Rules to DM,
- Other problems with the implementation of DM initiatives which by our interpretation the TEC is not seeking to address by this Rule change.

The NGF does not agree that the Rules in themselves are a barrier to the implementation of efficient DM; however there are structural and interface issues. Some NSPs are planners and asset owners, and the interface issues apply between the regulated and competitive sectors of the market that may need to be addressed. These include ensuring that non network solutions are appropriately sourced and assessed. These issues are discussed in further detail in the attachment to this submission which comments at a high level on the changes proposed by the TEC.

A key failing of this Rule change is that it:

- Does not address the differences between transmission, both interconnection and meshed network, and distribution networks;
- Ignores the issues with demand side response, lack of firmness and identification of the value to beneficiaries;
- Risks projects proceeding without assessing all of the alternatives (by leaving network solutions out of the first phase), increasing the potential for uneconomic solutions; and
- Will extend already lengthy planning times, increasing overall costs.

The Energy Reform Implementation Group (ERIG) found that while effective demand-side responses provide several advantages, there are also several constraints to its development in the National Electricity Market (NEM). These factors which contribute to the obstruction of demand side response in the NEM include:

- Customers are generally small in relation to generation and their core business is not electricity. Demand side response is inherently more difficult to organise, with high transaction costs. Further, customers have different priorities.

[2] While this pure concept can be debated a pure operator would have greater incentive to use DSR since it would lower overall costs. Examination of government-run markets should provide a pointer in this direction.

- Generators can participate directly in the spot market and the contract market. In theory so can the demand side, but in practice it is much harder. This is due to financial services licensing requirements and high transaction costs. Further, there is a lack of understanding by end use customers of the full value available from demand side response.

- It is often difficult for the demand side to be unconditionally firm and there are often constraints (e.g. demand deferral for up to 4 hours). However a portfolio of customers can offer greater firmness. Larger customers typically receive half the pool price saving for reducing their demand. As this is not firm, the customer is unable to access the contract premium. Typical customer benefits would be perhaps 10-20% of the maximum benefit for firm demand side.

- Generation volumes are readily established, while the quantum of demand reduction is difficult to establish.

- In practice the demand side participates through intermediaries. The retailer is in the strong position here as no other intermediary can readily capture the energy market benefit of demand reduction. However there is limited competitive pressure in this specialised area. There are significant transaction costs for retailers to target customers with demand response. This adds an additional layer of complexity which is only justified for interested customers with substantial demand capability.

- Retail price caps impede demand response in the short, medium and longer term as they support cross subsidies between customers.

- Network participants lack the incentive to pay for a demand service. Indeed it could be argued that transmission companies could have an incentive to discourage demand side response as they are earning TUOS income.

- For some demand side response – where distribution companies exercise control over voltage, there is no obvious way of capturing the benefit financially.

- It is much more difficult for the demand side to participate in the provision of reserve in the spot market than for generation.

The major impediments to the implementation of DM, identified by the ERIG (except for information asymmetry between DM providers and NSP's), do not appear to be the planning processes in the Rules, uncertainty in the Rules re the recovery of DM expenditure or insufficient reference in the Rules to DM. The major impediments would appear to fall into the TEC's category called "other problems" which by our interpretation the TEC is not seeking to address by this Rule change.

The general the approach by the TEC is to promote DM by trying to ensure DM is considered before other network and non network solutions. This approach if effective would result in a bias against network and other non network solutions including competitive market development and would be inconsistent with the market objective. However if these alternatives continue to be assessed on the basis of economic efficiency in a competitively neutral manner, redefining the generally accepted meaning of "demand management" and including the words "demand management" through various clauses in the Rules is unlikely to have any material effect on the uptake of DM. There is a risk however that the changes proposed by the TEC would create confusion and conflict with the NEM objective.

The benefits of demand management are recognised, and when appropriate DM alternatives should be implemented. We support the notion that non network solutions should be thoroughly investigated, however it our understanding that the Rules already stipulate in many areas that the most efficient option must be undertaken.

In addition to the obstructions to DM identified by the ERIG, a number of participants have listed numerous changes that are required to improve the uptake of DM in gas and electricity markets, including;

- Customer education
- Time of use metering, where a customer's behavior is recorded and not swamped by a socialised profiling technique.
- Contracts being commercially negotiated with customers, free of the impact of retail price caps or load-flexing vesting arrangements such as ETEF.
- A supportive attitude by networks and their regulators to foster DSP schemes as an alternative to network investment.
- Improved mechanisms to identify and capture potential demand side capacity. This may require support for improved technology to identify, control and measure load curtailed in response to wholesale market signals (eg. remote signaling of local control devices, interval metering).
- A consumer education role, possibly from government.
- Unfettered development of commercial arrangements to allow contract conditions to reflect the benefits of DSP to both end-users and retailers.
- Industry confidence that non-market intervention (eg. by jurisdictions – such as power restrictions or by gas system operators curtailing large users) will not occur (or at least only occur under known predictable conditions) to distort market price outcomes that would otherwise be used to develop DSP commercial opportunities.
- It is interesting to note that none of these conditions imply a change to the Rules.

Further, within the report "road map for demand response in the Australian NEM" it was contended that a key requirement for enabling DR programs revolved around the implementation of technology. Examples of technology needed to enable DR include; Smart Meter roll out, user friendly communication pathways for notification of customers, energy information tools that enable analysis of actual power consumption, smart thermostats that adjust air-conditioner temperatures automatically in response to market signals.

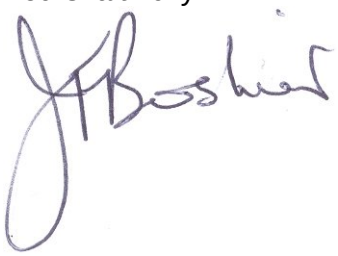
In the NGF's view there are a range of solutions to increase the uptake of DM that are able to be investigated before an overhaul of the NEM Rules occur. As seen above, there are a range of developments that can be made that may increase the uptake of DM, rather than changing the Rules of the National Electricity Market which risk disrupting the underlying economic principles.

The preference of the NGF would be to tackle these wider issues in a consistent manner to remove impediments to the efficient uptake of DM solutions in the competitive market, rather than distort outcomes in regulated network investment.

Comments are provided on the TEC proposed rule changes in Attachment 1. This submission is presented as a high level assessment of, and not an exhaustive analysis of all the issues with the proposed rule change.

In conclusion while the NGF supports DM we do not believe that the Rule change put forward by the TEC addresses the real problems in facilitating DM. If the changes were implemented they could create a distortion in the evaluation of “network” and “non network alternatives” as well as in the competitive market which would ultimately be reflected in an increased delivered cost of energy for consumers.

Yours faithfully



John Boshier
Executive Director

Attachment 1

The following is presented as a high level assessment of, and not an exhaustive analysis of each of specific issues raised by the TEC. The TEC numbering system has been retained for ease of reference with their Rule change proposal.

4.4 Transmission Network Planning

The problem identified by the TEC appears to be in two parts;

Firstly there is an overall bias towards network augmentation over a demand management response throughout the Rules due to the language used.

In relation to this issue at a high level the TEC is proposing to change the words “non network” to “demand management” to give demand management a higher profile in the Rules.

The TEC has defined “demand management” to include

- ‘demand response’, ‘demand side management’, ‘demand side response’, which are changes in electricity usage by end use customers from their normal consumption patterns in response to changes in the price of electricity over time,
- ‘energy efficiency’,
- both the management of peak loads and base-load.
- a diverse array of activities that meet energy needs, including cogeneration, standby generation, power factor correction, fuel switching, interruptible customer contracts, demand side aggregation, and other load shifting mechanisms, and
- ‘non-network solutions’.

In addition, non-network options include, but are not limited to, interconnectors, generation options (embedded generation etc), demand side options, market network service options and options involving other transmission and distribution networks;

The TEC claims that the changes are designed to ensure that networks thoroughly consider demand management solutions before network augmentation alternatives and that when demand management is the more cost effective of the two it be implemented.

The NGF does not support replacing “non network alternatives” with the term “demand management”. Demand management options are already included in the definition of “non network” alternatives, and changing the terminology in the Rules will at best have no positive improvement in economic impact (the selection of non-network alternatives must be on the basis of economic efficiency) and at worst will create confusion and uncertainty.

Secondly the TEC claim that there is a specific bias in that the Rules that guide networks planning process because the Rules do not attempting to correct bias towards inefficient augmentation that is created because the networks are both the monopoly planner and producer of network services.

The TEC notes that “When it comes to DM under current regulations, networks are expected to facilitate competition between themselves as owner and builder of network infrastructure and providers of DM services”, and also notes that there is a clear conflict of interest in this arrangement as networks have an obvious incentive to augment their own transmission networks rather than implement demand management strategies.

The Energy Reform Implementation Group also recognises that transmission networks may have a conflict of interest when it comes to augmentation. They reported that network participants lack the incentive to pay for a demand service. Indeed it could be argued that

transmission companies could have an incentive to discourage demand side response as they are earning TUOS income.

The problem identified by the TEC and ERIG is potentially a problem for all "non network" solutions not just for demand management.

We note that this issue is currently being examined by an AEMC review, which will result in relevant Rules changes in relation to national planning but that changes in the Rules have limited ability to address any bias which arises from a market structure issue.

The solution to address this conflict of interest would be,

For distribution businesses to;

- to separate planning from asset ownership in all regions[3], or
- implementing a prudency review or oversight of the network planning process to better ensure that "non network" alternatives have been considered in a competitively neutral manner.

In principle the NGF does not support the implementation of DM through incentive schemes aimed specifically at DM as they are distortionary in nature and may facilitate inefficient outcomes.

For transmission businesses;

- to separate planning from asset ownership in all regions[4] or
- implementation of the NTP function to ensure that all "non-network" alternatives are considered on a competitively neutral basis. The formation of a national transmission planner may assist in removing bias from augmentation over non network alternatives, including demand side responses.

The NGF agrees that the structural issue can potentially create a bias against non network solutions but is of the view that the change proposed by the TEC will not address the issue.

4.5 Annual Planning Reports

The TEC claims that the failure by TNSPs and DNSPs to properly investigate and provide proper and timely information on upcoming constraints results in a lack of information being made available to potential demand management providers. This hinders the demand management service provider market from competing with augmentation alternatives.

A related problem is lack of ex-post reporting.

The TEC proposes that to address this issue distribution and transmission networks should be required by the Rules to report annually on;

- demand management activities undertaken, and
- efforts undertaken to identify and providing proper and timely information on upcoming constraints

In principal the NGF supports the provision of more detailed information by TNSPs and DNSPs that will encourage the uptake of any "non network" solutions through a response from

[3] The MCE, in its terms of reference to the AEMC has provided guidance that one obvious solution to the conflict of interest question, separation of asset ownership and planning, is not to be considered in the short term.

[4] The planning function has been separated from asset ownership to overcome this conflict of interesting the case of VenCorp and SP Ausnet in Vic and the Electricity Supply Industry planning Council and Electranet in SA.

the competitive market. This information should allow the development of a wide range of responses and should not focus only on information that is relevant only to DM.

4.6 Demand Management Incentive

The TEC claims that transmission networks overlook or ignore DM due to the lack of incentives in the Rules for transmission network DM.

The TEC proposes that there should be an explicit provision for the Australian Energy Regulator to develop and implement a DM incentive scheme for transmission networks.

The TEC appears to be proposing a demand incentive scheme for transmission networks along the lines of those being developed by the AER for the distribution networks such as the NSW D-factor for ACT & NSW.

The NGF does not support regulated incentives for DM, as demand management together with other "non network" solutions forms part of the competitive market. Providing regulated incentives for transmission DM would create a bias towards demand management over other viable non network options which would lead to inefficient outcomes and higher costs to consumers.

The current arrangement through the regulatory test appropriately values DM in a competitively neutral manner. The drivers for DM are the high prices in the energy market at times of high demand or when there are constraints. These incentives apply consistently to all "non network" alternatives.

There are problems with the current arrangements, (ref ERIG) however rather than introduce a new incentive scheme the issues with the current arrangements need to be addressed. We would expect that these will all be considered as part of the forthcoming AEMC review of DM

There may be dis-incentives for TNSPs to consider DM but these relate to the market structure which contains both regulated and competitive elements:

- Some TNSPs are both planner and asset owner.
  This issue has been discussed in the section above.

  Implementation of the national transmission planner as outlined by the NGF in its 2007 submission will assist in addressing this issue.

- Risk averse mentality of TNSP and DNSP management.
  An April 2007 review[5] of Network Incentives for Demand Side Response and Distributed Generation suggested that this lack of incentive may come from the risk averse mentality of TNSP and DNSP management. This leads them to choose the option which they have the greatest degree of direct control over. As a physical asset (such as an expanded transmission/distribution network) is likely to provide a greater degree of risk management/control than a contract for supply of services with a third party, it will be perceived as being more favourable.

  This may not be an unreasonable approach as the reliability of a particular solution needs to be considered in any evaluation of alternatives. In addition, while the regulatory test provides for an even handed assessment, there are no financial

[5] NERA economic consulting – April 2007 - Distribution Rules review - Network Incentives for Demand Side Response and Distributed Generation

incentives for a network to take on the additional risk. This would suggest that reducing the current barriers to DM and thereby facilitating a competitive market response would be a superior approach.

However the advancement of technology will lead to an enhancement of the control/firmness offered by DM alternatives, and thus its uptake by the competitive market is likely to increase commensurately. Such technologies include the implementation of smart metering (which enable direct load control etc) to allow customers to face real time prices should facilitate DM in a cost effective manner (ie reduce congestion, at the lowest capital expenditure and therefore improve supply reliability.

A competitive market solution through the development of technology and a reduction in the barriers to entry to DM aggregators will lead to a more efficient outcome than through incentives to facilitate a regulated approach to DM.

4.7 The Financial Cover for Demand Management Expenditure

The TEC claims that there is a lack of certainty regarding the ability of transmission networks to recover demand management expenditure. While there is extensive detail on the recovery of expenditure on the transmission networks regulated asset base (augmentation), there is scant detail on how a transmission network is to recover operating or capital expenditure on demand side activities.

The objective of the proposed TEC Rule change is to clearly specify circumstances in which transmission networks can recover expenditure on DM.

The NGF understands that DM expenditure incurred by TNSPs can be recovered via a pass through application which specifically allows expenditure to be recovered fro DM or embedded generation. However the NGF would agree that if there is uncertainty in the Rules re the recovery of DM expenditure (or indeed any other non-network expenditure) through revenue setting process then that needs to be clarified, however the TEC has not presented any evidence to demonstrate that this is the case.

4.8 Revenue Determinations

The TEC claims that Demand Management is ignored when considering how to respond to demand growth. This is due to a regulatory approach that is embedded in the current revenue determination process that sanctions a bias towards, or gives a higher priority to supply side options over DM. This means that once supply side options are investigated it is unlikely that demand side responses will be successful.

The TEC considers that is necessary to prioritise demand management activities when considering how to respond to demand growth to ensure they are prioritised, properly investigated and integrated into revenue determinations.

The NGF is not aware that the current process precludes the integration of DM activities into the revenue determination process. We see no reason why DM should be specifically mentioned over other non network responses. All network and non network solutions should be prioritised in order of economic efficiency not on the nature of the technology, therefore the changes proposed are not necessary.

Prioritisation of demand management above augmentation and other non network alternatives could result in a bias, and as discussed earlier any bias to DM is not supported, however it is not clear that the rule changes proposed meet that objective.

For example the TEC has proposed rule changes, such as to 6A.6.6 (a), that require the transmission network service providers to show how much the total forecast operating expenditure will be reduced in their revenue proposals (as a part of the operating expenditure objectives that must be achieved). Presumably this reduction is from DM solutions if they are implemented, however this is not clear from the change proposed. At the best this change would require presentation of the reduction of the forecast operating expenditure due to the implementation of a DM scheme, but does not appear to improve the treatment of options through the revenue determination process.

The NGF therefore does not support this proposal.

4.9 Acknowledgement of modest demand management expenditure

The TEC claims that a major barrier of demand management is the concern of networks to be able to recover expenditure on modest demand management investments. Consequently the Rules need to be explicit in the acknowledgement of the potential use and value of demand side management activities in covering relatively modest amounts of load or hours at risk, to ensure that demand management is considered.

It is not clear that the Rules preclude modest expenditure on DM by distribution businesses. Furthermore the AER's preliminary position in the "Matters relevant to distribution determinations for ACT and NSW for 2009-14" provides in addition to the D factor arrangement in NSW on a trial basis, a learning by doing fund to undertake broad base demand management which may provide benefit to customers in NSW and the ACT.

These arrangements appear to be designed to address modest investments in DM and facilitate a learning process. In principle, the NGF does not support the incentive based approach to facilitating DM as it is distortionary and does not address the real barriers to entry for DM. The provision of incentives to one technology over another is outside the scope of Rules changes. Public policy issues such as these are not correctly assessed in the objective of the National Electricity Law, which is an economic test but should rather be left to specific policy proposals, like using MRET to develop renewable technology.

This proposed change to the Regulatory Test provisions clause 5.6.5A (c) is not supported on the grounds that it is an unnecessary adjustment and does not improve the current situation. Demand management is covered extensively through this section (included in non network solutions) and therefore requires no more incorporation or correction within the Rules.

4.10 Effective prudency reviews.

The TEC is of the view that there is a failure by transmission networks to properly investigate demand side management when considering how to respond to demand growth. Prudency reviews that assess the past and projected capital expenditure should be undertaken; specifically these should assess the extent to which transmission networks have implemented, and not ignored, an adequate level of demand management. Clause S6A.2.2 "Prudency and efficiency of capital expenditure" should be modified to specifically refer to DM. Revenue is to be disallowed for expenditure that ignores cost effective demand management.

The proposed changes to the prudency review are not supported. The proposed changes are unnecessary as the existing Rules (clause S6.A.2.2 (1-6)) clearly states that a prudency review must scrutinise efficiency and that inefficient capital expenditures be avoided. Therefore demand options should have already been considered if they are an "efficient" option.

That prudency reviews can be effective in relation to DM, has been demonstrated in the Australian Consumer and Competition Commission (ACCC) final revenue determination for Transgrid, which shows that TNSP's that ignore more efficient demand side solutions can have revenue disallowed. The ability for the AER to disallow revenue at a final revenue determination cannot be achieved under the current Rules; however this case demonstrates that the existing prudency review provisions in the Rules are likely to be effective in relation to DM.

4.11 Regulatory Test

The TEC claims that the provisions for the regulatory test do not include demand side options as a necessity in any assessment of costs or benefits, thus putting demand management solutions at a disadvantage. An additional/related problem is that, for instance the Rules clause (5.6.5A[b][1]), give equal weight to "those who produce consume and transport electricity". This assumes the interests of producers /transporters of electricity are aligned with the long term interests of consumers. To reverse the bias towards augmentation and the neglect of demand management, the Rules must specify that demand management options be investigated before augmentation. The regulatory test shouldn't assume the interests of those who produce transport and consume electricity are aligned.

The TEC does not understand the objective of the NEM, nor does it understand that the above clause is consistent with the NEM objective.

The option of non network alternatives is clearly addressed throughout the regulatory test. S6.5.A.3 (v) states that "the identification of the likely alternative option referred to in subparagraph (1) is informed by consideration of all genuine and practicable alternatives options to the proposed new network alternatives without bias regarding whether it is a network or non network alternative. The TEC has claimed that the regulatory test does not include demand side options as a necessity in any assessment of costs or benefits. However the TEC has failed to recognise that there is no necessity for non network alternatives or augmentation for that matter. The regulatory test gives equal weight to all options without bias, and therefore it is unnecessary to create DM as a necessity.

The TEC is making trivial changes to the wording of the Rules (as non network alternatives explicitly include demand management) and the proposal is therefore not supported.

The National Generators Forum has noted that there has already been considerable review and development undertaken in the past to achieve the current design of the regulatory test. It would be a concern if any piecemeal amendments or replacement arrangements were to undermine the robust economic framework embodied in the framework.

4.12 Short Term and Long Term Price for Demand Management

The TEC has argued that there is currently no mechanism for setting the price of demand side response activities within the market pool. This inhibits the development of a mature demand management aggregation market which could provide more efficiency, in turn reducing consumer costs.

In addition the TEC has continued by saying that investigation and implementation of demand management is a principle and good practice to achieve maximum efficiency. Demand Management is there by not a technology and favouring DM in this way is not in breach of market design principles.

The competitive energy market currently provides the price signals to drive DM and DM can currently make offers for DM in the pool however there is no obligation for them to do so. In

the NGF's view DM should be obliged to bid into the pool. This will improve market management, lead to a more efficient and competitive market price, improve the transparency of price discovery and lead to a more two-sided market as originally intended.

We do not agree that DM is a "principle" and not a technology. The market design principles (Section 3.1.4, subsection 3) stipulate that there must be avoidance of any special treatment in respect of different technologies used by Market Participants and on that basis the case put forward by the TEC for special treatment for DM is not consistent with the market design principles and should be rejected.