



CitiPower Pty  
ACN 064 651 056  
www.citipower.com.au

Head Office: 40 Market Street Melbourne Victoria  
Telephone: (03) 9683 4444 Facsimile: (03) 9683 4499 DX 433 Melbourne  
Postal address: Locked Bag 14090 Melbourne Victoria 8001 Australia



Powercor Australia Ltd  
ACN 064 651 109  
www.powercor.com.au

8 October, 2007

Manager  
MCE Secretariat  
Department of Industry, Tourism and Resources  
GPO Box 9839  
CANBERRA ACT 2601

Email: [MCETMarketReform@industry.gov.au](mailto:MCETMarketReform@industry.gov.au)

Dear Sir/Madam

**National Frameworks for Distribution Networks:  
Network Planning and Connection Arrangements**

Thank you for the opportunity to comment on the reports released by the MCE in relation to the National Frameworks for Distribution Networks: Network Planning and Connection Arrangements. CitiPower and Powercor Australia (**the businesses**) are Victorian electricity distributors which will be directly affected by the implementation of recommendations contained in the reports.

CitiPower and Powercor offer the attached comments for your consideration.

Should you have any further questions in relation to this submission, please do not hesitate to contact Rolf Herrmann on (03) 9683 4282 or email [rherrman@powercor.com.au](mailto:rherrman@powercor.com.au).

Yours sincerely

Richard Gross  
General Manager Regulation

# **Powercor Australia Ltd and CitiPower Response to: Network Planning and Connection Arrangements – National Frameworks for Distribution Networks**

This paper was prepared in response to the report *Network Planning and Connection Arrangements – National Frameworks for Distribution Networks*, a joint report prepared by the Allen Consulting Group and NERA Economic Consulting for the Ministerial Council on Energy Market Reform Working Group. It also addresses issues raised in the related NERA report *Revised Demand Side Response and Distributed Generation Case Studies*.

## **General Comments:**

Powercor and CitiPower note that several recommendations propose changes that would add a significant regulatory burden and inefficiency to DNSPs. Consideration should be given to ensuring that a regulatory framework provides tangible benefits that exceed associated administrative costs. Regulatory costs are ultimately borne by consumers and should only be imposed where they will deliver a net social benefit.

In addition, Powercor and CitiPower believe that that implementation of these recommendations will require very careful drafting of the changes to the National Electricity Rules to achieve workable outcomes. In our view it would be appropriate for the MCE to refer the matter to the AEMC for a detailed review and development of draft Rules using the transparent Rules consultation process to ensure the appropriate industry participation.

## **Planning arrangements**

In relation to the framework for network development and planning arrangements, it is of concern to Powercor and CitiPower that these the recommendations would move Victorian DNSPs down a path of very detailed and prescriptive approach to project justifications. This approach appears inconsistent with the current Victorian regime where DNSPs manage network constraints and supply reliability under a high powered service incentive scheme (S-factor). Under this scheme DNSPs must decide how to best manage these incentives in the context of other priorities and financial constraints. S-factor penalties are based on the Value of Customer Reliability, a proxy for market benefits to consumers. A lack of compatibility between the recommendations and the Victorian incentive service schemes may result in regulatory duplication and significant business uncertainty where it is not clear which test should apply.

The \$0.5m and \$2m thresholds for projects requiring cost-benefit analyses and RFPs are not considered reasonable. There are a significant number of such projects that Powercor and CitiPower perform annually and this requirement would add significant regulatory costs. It is unclear how the benefits of this recommendation would provide a net social benefit for consumers. This issue is discussed further in the Powercor / CitiPower response to specific recommendations raised in the NERA / Allen report.

The NERA / Allen report has been commissioned for the purpose of developing a national framework for distribution planning consistent with National Electricity Law objectives. The main objectives of NEL are to promote efficient investment in distribution services. The report claims

that “there are insufficient financial incentives ...to provide sufficient confidence that DNSPs will develop their networks in an optimal manner” and further states there is a related concern that DNSPs have insufficient incentive to provide “...possible non-network opportunities, nor consider non-network solutions” Contrary to this view, CitiPower and Powercor believe that the Victorian regulatory regime has strong incentive properties.

Where recommendations discuss the differences in Transmission and Distribution planning, it is pleasing the report acknowledges that a lower cost approach should be developed for future ‘regulatory tests’. However, no detail is provided as to what this would entail and some key differences between the Transmission and Distribution planning approaches are not acknowledged. A distribution network is a much more dynamic network than a transmission network. Distribution networks are closer to localised groups of customers and planning scenarios can change far more rapidly. It is not unusual for a network to recognise a localised constraint and complete the rectification works within a 12 month timeframe. The proposed recommendations would extend lead times which would be most detrimental to short range projects addressing localised constraints.

### **Distribution Network connections**

The report suggests that small load customers may not be charged a connection charge but does not justify this assertion. Powercor and CitiPower are not aware of any economic justification for small load customers avoiding a connection charge. However, a standard charge for small load customers with standard connection characteristics would allow for reduced administrative costs and a more streamlined process for small load customers.

### **National framework for connection charges**

Powercor and CitiPower believe that the proposed value thresholds for connection offers appear too low and warrant further consideration. It is also suggested these thresholds to be subject to periodic adjustment by CPI or some other suitable inflation index. This is particularly appropriate given the significant increases in input costs that DNSPs have experienced in recent years.

### **Network Losses**

The proposal for marginal loss factors at areas within the distribution network introduces a costly and difficult computational process. While Powercor and CitiPower agree with the concept that generators should benefit from improvements they contribute to line losses, such an arrangement should not introduce undue complexity to line loss calculations. In particular, any such system should not introduce settlement residues. As for Network Planning, additional regulatory costs are ultimately borne by consumers and should only be imposed where they are able to deliver a net social benefit.

### **Demand Side Response and Distributed Generation case Studies**

Comments regarding “cultural and other biases” by DNSPs against DSR and DG (p15 of NERA / Allen) are not justified by the Authors. A DNSP is required to balance many interests when managing network constraints, including the risk of a proposed solution not delivering the result. If the DSR or DG option is not presented with sufficient detail and unable to bear the risk of under-performance, it is appropriate that a DNSP would select a more robust solution which better manages the risk to the DNSP and its customers. In a service incentive regime such as that in Victoria, the commercial impact of non-performance can be substantial.

The report does not address the issue that efficient implementation of DSR and DG is influenced by the ability of the DSR and DG proponents to carry the risks of non-performance. In a network service incentive regime as in Victoria, any DSR or DG proponent seeking payment for avoided network augmentations must also be expected to bear the s-factor risk for non-performance.

Comments more specific to the recommendations are provided for your consideration in the attached table.

<p><b>2. A national framework for network development and planning arrangements</b></p>	
<p><b>Recommendation 2.</b></p> <p>The AER should be required to produce a statement of specific requirements that is given effect by the Rules that sets out the standard format and required contents of the annual planning report.</p> <p>The Rules should set out the matters the AER’s statement of specific requirements is permitted to address, which should include:</p> <ul style="list-style-type: none"> <li>▪ requiring an accessible summary of where and when constraints are expected to emerge over the planning horizon and of the value of deferring the associated network augmentations (e.g. in \$/kVA per annum terms);</li> <li>▪ requiring an accessible summary of the extent of surplus capacity at different points in the network;</li> <li>▪ requiring an accessible summary of the magnitude of current and forecast average and marginal distribution loss factors at different points in the network; and</li> <li>▪ requiring a standard format for reporting on applications of the regulatory test.</li> </ul>	<p>High voltage feeder networks are dynamic, particularly in urban areas. Applying this recommendation to high voltage feeders would be of limited value as constraints and capacities can change quickly depending on new customer connections. This recommendation would be applicable at a zone substation level where capacity constraints are more static.</p>
<p><b>Recommendation 3.</b></p> <p>For any project to alleviate a network constraint for which the network solution would require an estimated capitalised expenditure of \$2m or more, DNSPs should be required to perform an economic cost-benefit assessment of that project (see recommendation 6). As part of this assessment, the DNSP should be required to consult publicly and be required to issue an RFP from potential providers of non-network solutions to the network constraint. The DNSP should be required to report publicly the results of its assessment immediately after its assessment has been completed, and also to summarise the outcomes of the assessment in its annual planning report (see Recommendation 1).</p>	<p>Powercor and CitiPower disagree with the recommendation that projects to alleviate a network constraint down to a value of \$2m be subject to public consultation and a requirement to issue a RFP to potential providers of non-network solutions:</p> <ul style="list-style-type: none"> <li>• This recommendation will impose a significant regulatory cost that will ultimately be borne by consumers. It is not clear what benefit will be provided to justify this cost.</li> <li>• This requirement would increase the lead time required for DNSPs to address network constraints. It is not clear what benefit will be provided to justify this delay.</li> <li>• Given significant recent increases in commodity prices, it would be appropriate that any capital expenditure threshold be subject to indexing.</li> </ul>

<p><b>Recommendation 4.</b></p> <p><b>For any network constraints for which the network solution would require an estimated capitalised expenditure of \$0.5-2m, DNSPs should be required to undertake an economic cost-benefit assessment of the project and publish the results in the annual planning report, without being required to issue an RFP or consult on the options.</b></p> <p><b>We observe that for network constraints for which the network solution would require an estimated capitalised expenditure of less than \$0.5m, there would be no formal ex post reporting requirement: DNSPs would not be required to undertake an economic cost-benefit assessment of the project, to issue an RFP or to consult on the options. The ex ante requirement to identify emerging constraints in the annual planning report would, however, apply to projects of this magnitude.</b></p>	<p>It is unclear what public benefit lies in the requirement to publish economic assessments of these projects. A more balanced approach would better align the costs and benefits and avoid a large number of fruitless RFPs.</p> <ul style="list-style-type: none"><li>• This recommendation will impose a significant regulatory cost that will ultimately be borne by consumers. It is not clear what benefit will be provided to justify this cost.</li><li>• This requirement would increase the lead time required for DNSPs to address network constraints. It is not clear what benefit will be provided to justify this delay.</li><li>• Given significant recent increases in commodity prices, it would be appropriate that any capital expenditure threshold be subject to indexing.</li></ul>
--	---

<p><b>Recommendation 5.</b></p> <p>The Rules should require the AER to issue a statement of specific requirements that sets out the contents of a Request for Proposals for non-network solutions to address an emerging network constraint and that sets out the process to be followed in issuing such requests.</p> <p>The Rules should require the AER statement to require the RFP to include, at a minimum:</p> <ul style="list-style-type: none"> <li>▪ the technical requirements that the non-network solution would need to meet;</li> <li>▪ the estimated range of costs for network solutions and an indication of the resulting annual cost that a non-network solution would need to better in order to be selected; and</li> <li>▪ an indication of whether the DNSP considers non-network alternatives to be a feasible solution for the project.</li> </ul> <p>The Rules should require the AER statement to require the RFP process at a minimum to:</p> <ul style="list-style-type: none"> <li>▪ provide sufficient time for proponents of non-network solutions to prepare their cases while allowing the DNSP, in the absence of a committed non-network project, to implement a network solution after a cut-off date; and</li> <li>▪ ensure that the RFP process is capable of being brought to closure, with the non-network solution either committed (and bound) to deliver in a reasonable period of time, or the DNSP free to select an alternative option.</li> </ul> <p>The Rules should require all RFPs to be published in the same central location as the annual planning reports.</p>	<p>A significant issue for non-network solutions the DNSPs liability for regulated penalties if a solution does not adequately address a network constraint. This issue is particularly pertinent to Victoria where significant penalties exist for failures to meet service targets (S-factor).</p> <p>DNSPs should not be prevented from rejecting non-network solutions where the solution exposes the DNSP to a significant risk of service incentive penalties.</p>
<p><b>Recommendation 9.</b></p> <p>The Rules should ensure that DSR/DG trials and risk sharing arrangements are encouraged in order to build trust and communication between DNSPs and proponents of non-network alternatives.</p> <p>In addition, the regulatory framework should be reviewed to determine whether insufficient incentives are provided to DNSPs to invest efficiently in research and</p>	<p>These matters should take into account any performance incentives, such as the Victorian Service Incentive Scheme (s-factor), which associate significant incentives and penalties with network reliability.</p> <p>Customers can benefit from innovation in the delivery of distribution services. It is therefore appropriate for the regulatory framework to provide clear incentives for DNSPs to develop and embrace innovative solutions</p>

<p>development, warranting the development of a specific incentive mechanism in the Rules.</p>	
<p><b>3. A national framework for distribution network connection</b></p>	
<p><b>Recommendation 17.</b></p> <p>The NER should require a DNSP, within five business days of receiving a user’s initial enquiry:</p> <ul style="list-style-type: none"> <li>▪ to advise the user whether there is a standard connection service that would encompass its connection requirements and if so: <ul style="list-style-type: none"> <li>– supply the user with the relevant standard contract and application form; and</li> <li>– inform the user that they have the option of using either the standard connection service or negotiating an alternative connection service.</li> </ul> </li> <li>▪ to provide the user with a copy of the negotiation framework it has developed in accordance with Rule 6.7.5 and that has been approved by the AER which will come into operation if the connection service is to be negotiated;</li> <li>▪ to inform the user of whether any aspects of the connection service are contestable;</li> <li>▪ to inform the user of any additional information required which is of the kind specified in Schedules 5.4; and</li> <li>▪ to inform the user of the indicative value of the loss factor applying in the area within which the user is seeking connection.</li> </ul>	<p>The requirement to deliver this information within five business days is appropriate for a standard connection agreement. A longer time frame would be appropriate for more complex requests, for example where DG, DSR, small customers and major customers were incorporated into one connection.</p>
<p><b>Recommendation 24.</b></p> <p>The NER should allow the user (utilising the negotiated connection application route) two months to accept the offer otherwise the offer should be deemed to have lapsed unless the DNSP agrees to extend the offer.</p>	<p>A mandated minimum acceptance period is undesirable because an open connection offer may impact other connection applications. If it is necessary to mandate any acceptance period a 21 day period would be more appropriate.</p>
<p><b>4. A national framework for connection charges</b></p>	

<p><b>Recommendation 25.</b></p> <p>The NER should allow, subject to a decision by the AER as to the form of regulation to apply to the provision of connection assets, a DNSP to recover from connecting users the cost of dedicated connection assets as well as extension assets for the sole use of a new connection that, but for the new connection, would not have been incurred – a connection asset charge.</p>	<p>The Rules should not preclude the inclusion of upstream charges not otherwise recovered through standard control services.</p>
<p><b>Recommendation 26.</b></p> <p>The NER should adopt the terminology in Box 4.1 for the purposes of calculating a connection asset charge.</p>	<p>This terminology is not clear in all circumstances. For example, a low voltage substation owned and operated by a distributor within a high rise commercial building would be termed a dedicated connection asset if there is only one single customer. However, if the building includes a number of tenants then the substation would appear to be a shared network asset. At the time of negotiating the network connection arrangements it is not always clear what tenancy arrangements may apply. These arrangements may also change over the life of a building.</p> <p>Similarly the term “extension asset” is readily interpreted in a rural environment where the extension is necessary because there are no existing assets. However, in an urban or CBD environment does “extension” also apply in situations where the existing network is fully loaded and a new feeder into the area is required.</p>
<p><b>Recommendation 27.</b></p> <p>A compulsory connection asset charge should not include the cost of any shared network augmentation that may be required to service the load/generation output arising from a new connection. However, a connection applicant may also choose to fund shared network augmentation by negotiation between the DNSP and the connection applicant.</p>	<p>The rationale for a distinction between augmentation assets and extension assets is not clear. Charges are contemplated for extension works but not allowed for augmentation works yet in both cases they allow for charging for the connection of new loads.</p>
<p><b>5. Network losses</b></p>	

<p><b>Recommendation 31.</b></p> <p>DG should receive a DLF that reflects the amount of losses that the DG would avoid by being present and operating (i.e. a marginal loss factor). In contrast, customers would continue to receive a loss factor that distributes the losses to be recovered across customers in proportion to each customer’s usage, where the losses to be recovered are the sum of the forecast of actual losses and the sum of the ‘avoided losses’ from DGs.</p>	<p>The DLF calculation method should take into account the administrative cost of calculating the DLF’s to ensure the commercial signals are warranted. In evaluating the marginal loss approach, careful consideration is also required before the approach is applied in a way that creates settlement residues.</p>
<p><b>Recommendation 32.</b></p> <p>Marginal loss factors for site specific DG should be calculated on the basis of the forecast losses with the DG being present and operating as forecast, compared to the losses that would be forecast in the absence of that DG. For smaller sites, the distribution loss factor should reflect a marginal loss factor (averaged across the relevant geographic area), but estimated in a manner that keeps the computation burden to a reasonable level – for example, through the use of a ‘rule of thumb’ relationship between average and marginal loss factors.</p>	<p>This recommendation could impose significant regulatory costs that should be balanced against any incremental benefit.</p>
<p><b>Recommendation 34.</b></p> <p>DNSPs should be required to calculate a separate marginal loss factor for geographic regions that are expected to suffer materially different levels of losses, and to combine geographic regions for this purpose only where they are expected to suffer materially similar levels of losses.</p>	<p>“Geographic regions” should not be interpreted in a way that precludes taking into account the physical network arrangements, eg long or short feeders.</p> <p>This recommendation would impose significant regulatory costs that should be balanced against any incremental benefit.</p>
<p><b>Revised Demand Side Response and Distributed Generation Case Studies</b></p>	

<p style="text-align: center;"><b>Box 3.2</b></p> <p><b>Recommendations for consideration beyond the revenue and pricing Rules</b></p> <ul style="list-style-type: none"> <li>▪ Where a direct load control facility is available at a customer's connection point, consideration should be given to ways to ensure the controller of this infrastructure provides access (on reasonable or regulated terms) to that customer's retailer, DNSP, TNSP or other DSR intermediary engaged by the customer for the purposes of load control.</li> </ul>	<p>Australian Standards for Requirements of Demands Response Enabling Devices (AS4755) is currently under development. It is suggested that developments in this area should be suspended until this Standard is available as a basis for assessing infrastructure capabilities.</p>
<p style="text-align: center;"><b>Box 4.2</b></p> <p><b>Recommendations for consideration beyond the revenue and pricing Rules</b></p> <ul style="list-style-type: none"> <li>▪ It is important that jurisdictional standard setters be cognisant of the DSR and DG incentive implications of network planning or service reliability standards. Consideration should be given to the use of probabilistic standards and their relative costs and benefits as compared with deterministic standards.</li> </ul>	<p>Under a network service incentive regime such as that applying in Victoria, it would be necessary for a DSR or DG proponent seeking payments for avoided network augmentations to also carry the risk associated of not meeting service requirements.</p>