United Energy Distribution Pty Limited
ABN 70 064 651 029

29 July 2016

United Energy
6 Nexus Court
Mulgrave VIC3170
PO Box 449
Mt Waverley VIC 3149
T 03 8846 9900
F 03 8846 9999
www.ue.com.au

Essential Services Commission of Victoria
Level 37, 2 Lonsdale St
Melbourne, Victoria 3000

Email: DGInquiry@esc.vic.gov.au

To whom it may concern

RE: Submission to Distributed Generation Inquiry Stage 2: Draft report

United Energy (UE) welcomes the opportunity to make this submission to the Essential Services Commission of Victoria's (ESC) Distributed Generation inquiry Stage 2 Draft report: *Network Value of Distributed Generation* (DG). The commission's report is a follow up to the Proposed Approach published in Dec 2015 and a companion piece to its Stage 1 Draft report on the energy value of Distributed Generation (DG).

In attempting to assess the network value of DG and ultimately introduce a tariff mechanism that compensates 'proponent led' DG, the ESC proposes a high level methodology based on the Long Run Marginal deferred costs associated to network augmentation and maintenance.

We do not support the ESC's assertion that there is a consistent or material network benefit generated from DG by the customer, as there is no reliable or compelling evidence in Victoria to support it. Further, the Queensland Productivity Commission's (QPC) draft report on Feed in Tariffs and independent work commissioned by Powercor, have not identified any benefit material enough for the proponents of DG to be rewarded. As such, UE does not support the ESC's proposal for a methodology to calculate the value of a benefit, for the purposes of remunerating proponents of DG.

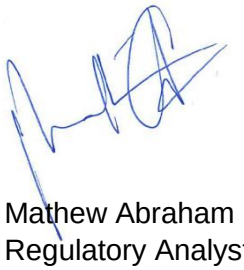
Critically, the metrology capabilities derived from the Advanced Metering Infrastructure (AMI) that enables the introduction of cost reflective tariffs, as proposed by UE in its Tariff Structure Statement in September 2015, provides efficient pricing signals that identify and target those consumers who drive the cost of network augmentation and maintenance in order to meet their peak load. This is a far more efficient approach to achieving the objective of "user pays" and avoids the introduction of cross subsidies on top of those inherent in existing schemes.

We respectfully propose that the ESC instead focus on utilising and realising the benefits of AMI infrastructure already in place and paid for by the consumer, before considering the imposition of additional costs on distribution businesses in the creation, implementation and administration of this methodology to a tariff.

Further details on this submission are provided in Appendix A. (answers to questions) below.

If you have any queries on our submission please contact me by email or .

Kind Regards,



Mathew Abraham
Regulatory Analyst

Appendix A. Questions to be answered as part of the inquiry

Approach, concepts and definitions

Q.1 Are there any other aspects of our definition of distributed generation that we should consider, in this stage of the inquiry?

No.

Q.2 What data and evidence is available about the potential network benefits of battery storage?

Only to show that depending on the time of the release there is a reduction in load. However this reduction is only beneficial in locations where there is a constraint on the network. An example of potential network benefits from battery storage technology is addressed in Q.11.

Q.3 On what basis should the network benefit from distributed generation be assessed – on the total output or on the total exports of the distributed generation system?

This should be based on the total output of DG as it offset the demand. However, we do not have gross metering for DGs at present. This is more complex than the question itself. We might need to treat existing DGs and new installations differently. Network benefits are realised only if the assets of interest (distribution sub, feeder zone sub etc.) is capacity constrained. The existing DGs are already reflected in the network demand. There can be occasions where we experience network constraints when we correct the actual demands for the existing DGs (if we have a mechanism to calculate and add the contributions back) or they can help in addressing an emerging constraint together with some new DGs. Then it is a question of whether we need to incentivise the existing DGs and how.

Q.4 What do you see as the main differences between network-led and proponent-led DG in terms of the network benefits they deliver?

Network-led schemes will be targeted to address specific limitations in the network and provide better control over the dispatch. However, if the proponent-led schemes are targeted with network support agreements, then there will be no material difference. On the other hand, if proponent-led schemes are to be scattered and not under network support agreements, network benefits are likely to be negligible. Further, it should be noted that DGs can create new operational challenges such as voltage regulation issues and fault level limitations. In some cases, the cost of mitigating such operational limitations may outweigh the benefits of DGs. A targeted approach, whether it be network-led or proponent-led would provide network benefits (as outlined above) and cost-competitiveness for customers.

Q.5 Are there any other aspects of our definition of value that we should consider, in this stage of the inquiry?

The cost associated to the export of energy into the grid has been ignored. The value hence must be a net calculation.

Q.6 Are there any other aspects to our proposed framework for assessing network value that we should consider?

UE is not aware of any at this stage.

Q.7 Do you agree with the Commission's proposed framework for the network value stage of the inquiry? Are there alternative approaches?

UE respectfully disagrees with the proposed framework. Our views are reflective of the response to Q.22 of this submission.

Economic Benefits

Q.8 Beyond those identified in the paper, are the other examples of applied methodologies for calculating network benefit that the Commission should consider?

UE is not aware of any at this stage.

Q.9 Can you suggest any alternative or additional categories of network benefits regarding distributed generation?

UE is not aware of any at this stage.

Q.10 Can you suggest alternative or additional characteristics of distributed generation (that effect the capacity of distributed generation to provide network benefits) ?

UE is not aware of any at this stage.

Q. 11 Are there circumstances in which a fleet or 'portfolio' of passive distributed generation systems can provide suitably firm generation capacity to create circumstances in which network benefit is created?

Yes there are.

United Energy's Virtual Power Plant project (VPP), funded entirely though the Demand Management Incentive Scheme mechanism, used solar and storage units to cut peaks in electricity usage, and identified the need for possible reduction in additional future network spend.

The firm capacity, controlled by us, used a cloud platform to operate individual storage units remotely and on demand.

Economic value methodological approach

Q.12 What alternative or additional building blocks of a methodology should be considered for determining the network benefit of distributed generation?

The ESC ignores the costs incurred by the business resulting from the increased DG export into the network.

Q.13 What do you see as the most appropriate unit of analysis and level of granularity is for the assessment of network benefits?

In principle, this should be kW average over a 30 minute basis. Metering data is kWh (energy), however network benefits are driven by demand. It is simple to convert interval kWh to kW.

Q.14 What publicly available data sources can be accessed to apply the methodology, particularly with respect to network constraint and demand?

Network Opportunity Maps - Institute for Sustainable Futures, UTS. The DAPR would have identified the areas of constraint. DAPR would be the best source as it includes feeder level constraints which are missing in UTS maps.

Q.15 What are the appropriate time parameters of a study into the potential network benefits of distributed generation?

Given the network is summer peaking, this should be during summer. Specific time of the limitations vary from asset to asset depending on the composition of the load. Therefore, time within a day will be case specific.

Environmental and social benefits

Q.16 Can you suggest or provide evidence that supports those environmental or social benefits attributed to distributed generation listed in this discussion paper?

There is no evidence that UE can provide.

Q.17 Outside those potential benefits listed, are you able to provide (and support with evidence) of how distributed generation reduces the environmental impact of the transportation of electricity?

There is no evidence that UE can provide.

Q.18 Outside those potential benefits listed, are you able to provide (and support with evidence) examples of how distributed generation provides social benefit, as it relates to the transportation of electricity?

There is no evidence that UE can provide.

Operation of the current regulatory framework

Q.19 Are there other aspects of the current regulatory framework outlined in this paper that the Commission should consider?

UE is not aware of any at this stage.

Q.20 Can you provide specific examples of payments made to distributed generators under the regulatory mechanisms listed in this discussion paper? What size of distributed generation systems received the payments? Were payments made to small-scale systems?

Network support payments have been previously made to much larger embedded generator units.

Q.21 Are you able to provide data/evidence about the operation of the small scale generation aggregator framework as a mechanism by which network benefits of small scale distributed generation can be identified, valued and compensated?

There is no evidence of it being used or trialled.

Q.22 To what extent do the Tariff Structure Statements published by Victorian distribution businesses provide an indication of the benefit distributed generation can provide through reducing peak network demand?

As stated in our TSS submitted in September 2015, today's tariff structures do not encourage customers to use stored electricity at times of system peak demand. Instead, the incentive is more focused on reducing energy usage. As a result it is rational for a customer who has invested in battery technology to start consuming from the battery as soon as the household usage exceeds the production from the solar panels, to ensure that they use all of the energy produced each day. This is most likely to lead to only very minor, if any, reductions in peak demand as the battery is likely to be exhausted before the system peak.

Alternatively, if a customer faced signals that reflected the network costs of meeting peak demand, the customer's energy management systems should operate with the objective of minimising demand during the peak period to reduce cost. This would still allow the customer the ability to draw down all the energy stored in the battery, but it would properly signal the value of stored capacity at different times. It would have the added advantage of providing additional benefits, in the form of lower tariffs, for the customer contemplating a storage investment.

Q.23 Are there are alternative conceptual frameworks that could be used to examine the benefits provided by proponent-led distributed generation? In particular, are there conceptual frameworks for considering potential benefits that were not anticipated in the planning forecasts associated with the five yearly pricing determination process?

UE is not aware of any at this stage.

Alternative mechanisms

Q.24 How should the Commission consider the scope of the LGNC Rule Change Proposal with this current inquiry?

The scope is no more different than what is proposed here.

Q.25 Are there methodologies for calculating network value and/or regulatory mechanisms from any other jurisdiction that are suitable for consideration in the context of this inquiry?

UE is not aware of any at this stage.