

AEMC Draft Report - National Workstream:  
Review of Distribution Reliability Outcomes and Standards  
Submission by the Alternative Technology Association



## 1.0 Document Information

© 2013 Alternative Technology Association. All rights are reserved. No part of this report may be reproduced without acknowledgement of source.

### Prepared for

#### **ATA Energy Policy Team**

Prepared by: Craig Memery, Damien Moyse, Dominic Eales

#### **Alternative Technology Association**

Level 1, 39 Little Collins St, Melbourne VIC 3000

+61 3 9639 1500

+61 0412 223 203

[www.ata.org.au](http://www.ata.org.au)

Promoting Renewable Energy, Energy Efficiency and Water Conservation since 1980

## Contents

1.0	Document Information .....	2
2.0	About ATA .....	4
3.0	Responses to Questions in Draft Report .....	5
	Question 1 – Development of Guidelines .....	5
	Question 2 – Customer Consultation .....	8
	Question 3 – Economic Assessment Process .....	9
	Question 4 – Worst Served Customers .....	9
	Question 5 – Consistent Definitions & Exclusions .....	9
	Question 6 – Applying across Jurisdictions .....	10
	Question 8 – Nationally Consistent Incentives .....	10
	Question 9 – Reporting .....	10

## 2.0 About ATA

Founded in 1980, the ATA is a National, not-for-profit organisation whose 5,500 members are residential energy consumers with an interest in sustainable energy and resource use.

Through the application of our in-house expertise and experience in the energy market to our continuing advocacy and research, and close collaboration with fellow members of the National Energy Consumer Roundtable, the ATA is an important voice for energy consumers Australia wide.

ATA presents a uniquely two-fold perspective in the energy policy space: as well as representing all energy consumers through our support of increasing energy affordability through improvements to the energy market, we speak with authority on behalf of the growing portion of the consumer base who have an active interest in demand side participation.

While ATA's membership is diverse, most members keenly await opportunities for more effective ways to interact with the National Energy Market to become available, and provide more opportunities to bring down the cost of energy. Some ATA members play an important role as the 'early adopters' of new and emerging technology, which in the context of DSP is vital to bring about the uptake and maturation of any technology.

As a leading consumer organisation in the energy policy space, ATA plays a key advocacy role, working with energy market institutions, energy businesses and state and Commonwealth governments to promote solutions to the problem of increasing energy prices through realising potential efficiencies in the National Energy Market.

ATA's Energy Policy Team is primarily resourced by the Consumer Advocacy Panel and by our members.

## 3.0 Responses to Questions in Draft Report

### Question 1 – Development of Guidelines

In ATA's view, the AEMC should be responsible for the development of National guidelines.

Noting chapters 2.2 and 2.4 of the Draft Report, ATA generally support the proposed elements and principles for the national framework.

We question, however, the extent to which the proposed guidelines can "... achieve consistency in the setting of output reliability targets..." and "...allow comparability of performance across jurisdictions" (p17), given the level of discretion afforded to the Jurisdictional target setters, and to some extent individual DNSPs, under the proposed arrangements.

Noting chapter 3.1, ATA are concerned that removing input planning standards may impact consumers' ability effectively to engage with, and influence, aspects of the regulatory determination process. We ask the Commission to consider if the new consumer engagement measures that come into play as recommended by this and other recent AEMC reviews are sufficient to mitigate this impact.

#### Value of Customer Reliability

ATA note that AEMO's approach to determining VCR is intended as a transmission planning tool, and is not appropriate for distribution planning, for which it was not intended. Unfortunately, in the absence of more appropriate tools, the Transmission VCR often becomes a proxy for distribution reliability (and other applications).

As acknowledged by the AEMC in Box 3.1 of the Draft Report, the practice of using of a single energy-based Value of Customer Reliability for every class of consumer at a distribution level is inherently flawed, to the extent that, in ATA's view, using this method is entirely inconsistent with the National Electricity Objective and should be avoided.

A key flaw of the approach of applying this VCR method to distribution planning is that it does not allow correct valuation of the 'partial supply' DSP-based measures that could be available to the many consumers who do not require unrestricted supply to energy at all times. This places artificial barriers on non-network alternatives of those consumers who are in a position to be more flexible in their energy use.

This is in spite of the fact that tools such as Direct Load Control, Supply Capacity Control/Limiting, Critical Peak Pricing and other DSP-based solutions, coupled with appropriate incentives, would benefit participants as well as other electricity consumers through reduced or deferred network expenditure.

100% reliability of supply at all times is critical for a relatively small number of consumers for medical and quality of life reasons, and naturally these specific customers' needs must be accounted for when developing any approach to reliability.

However, the treatment of all residential consumers as equal in terms of their ability to compromise supply reliability in return for a financial trade off makes it highly difficult to assess the value of both demand side and supply side investments.

The over-emphasis on inflexible, broad-brush measures and the energy-based common Value of Customer Reliability across consumer classes as a means of valuing the need for continuous supply leads to over-investment in many parts of electricity networks to meet demand. This leads to higher than necessary costs being passed through to all end consumers.

To illustrate this point, presented below is the relative consequence of unserved energy for an example residential customer, by appliance and duration of unplanned outage:

Residential Appliance In Use During Unplanned Outage	Relative Impact of Unplanned Outage Lasting:			
	Seconds	Minutes	Hours	Days
Refrigerator	Low (if infrequent)	Low	High	High
Separate freezer	Low (if infrequent)	Low	High	High
Lighting	Low (if infrequent)	Medium	Medium	High
Electric stove /oven	Low	Medium	High	High
Clocks, digital equipment	High	Low	Low	High
Clothes dryer	Low	Low	Medium	Medium
Air-conditioner	Low (if infrequent)	Low	Medium to High	High
Space heating	Low	Low	Medium to High	High
Dishwasher	Medium	Low	Medium	Medium
Washing machine	Medium	Low	Medium	High
Television, entertainment unit	Low	Low	Low	Medium
Desktop computer (without UPS)	High	Low	Low to Medium	Medium to High
Water heating (electric storage)	Low	Low	Medium	High

**Table 1 Consequence of outage for one residential customer, by appliance and outage duration**

Residential Load Type	Proportion of Total Energy Use <sup>1</sup>	Indicative value of unserved energy per appliance type <sup>2</sup>
<b>Essential, non-interruptible</b> e.g. Lights, refrigerator, clocks, desktop PC	30% (+/-5%)	\$50,000 – \$750,000/MWh (mostly in middle of range)
<b>Essential, partly-interruptible</b> e.g. Washing machine, space heating/cooling, laptop	25% (+/-5%)	\$200 – \$700,000/MWh
<b>Non-essential <i>and/or</i> fully interruptible</b> e.g. TV/entertainment, water heating, pool pump	45% (+/-10%)	\$0 – \$250,000/MWh (mostly lower end of range)

**Table 2 Breakdown of essential and non-essential loads, and range of values of unserved energy, across residential customer classes**

While the first table is only intended to be indicative of the preferences of a single ‘typical’ consumer (individual consumer preferences can vary widely) these tables illustrate that:

- a. Approximately half of a typical residential consumers’ average load (‘Non-essential *and/or* fully interruptible’) could be interrupted for hours at a time a small number of times each year without significantly impacting the use of essential appliances;

The actual value of unserved energy for this portion of the load is much lower than the average residential VCR, such that were they given the choice, many consumers would opt out of incurring the expense of VCR for supply to those appliances;

- b. Most of the average VCR is attributable to (Essential, non-interruptible) appliances that use approximately one third of a customer’s energy supply;
- c. Direct load control, supply capacity control/limiting critical peak pricing and other DSP-based solutions, along with appropriate incentives, would benefit participants (as well as other electricity consumers through reduced or deferred network expenditure);
- d. Given the range of variables, factors and assumptions required to estimate how consumers value energy, a single average energy-based VCR for a whole consumer class is virtually meaningless at a distribution level.

In this regard, **ATA recommend that the AEMC prescribe that the methodology used for determining VCR provide outputs that allow the correct valuation of the ‘partial supply’ DSP-based measures.**

For example, this might be in the form of series of two values for supply capacity scenarios (e.g. 0% supply representing total loss of supply, and 50% supply representing loss of non-essential and/or

<sup>1</sup> Example proportions based on [http://www.trade.nsw.gov.au/data/assets/pdf\\_file/0011/368561/factsheet6-reducing-energy-costs.pdf](http://www.trade.nsw.gov.au/data/assets/pdf_file/0011/368561/factsheet6-reducing-energy-costs.pdf) and <http://www.yourhome.gov.au/technical/fs61.html>

<sup>2</sup> Based on indicative values calculated by ATA for a number of hypothetical scenarios, considering the cost of maintaining local supply during an outage, the consequential cost impact of an unavoids loss and supply, and/or willingness to pay, for outages of less than 24 hrs. Assumptions and modelling available on request.

flexible loads), across each of two or three subclasses of consumer (e.g. urban, regional, and remote).

### **SAIDI, SAIFI & MAIFI Reporting**

ATA remains sceptical of the ability of broad-brush, network wide frameworks such as SAIDI and SAIFI to ensure efficient and equitable outcomes when it comes to reliability. As discussed above, residential consumers in particular will have differing reliability requirements based on the relative value of unserved energy to them.

In ATA and our member's experience, many will be interested in a framework that facilitates 'opt-out' type incentives that allow them to benefit from a reduced level of reliability, whilst also benefiting the broader consumer base through reduced network management costs.

**For this to happen, DNSPs need to be given the discretion to exclude customers that have provided explicit informed consent to lower levels of reliability from SAIDI and SAIFI reporting.**

While it is understandable that the structure of reliability incentives could treat planned and unplanned outages differentially, ATA note that all outages have customer impacts and so should be reported.

We also note that SAIDI and SAIFI data for planned outages is relatively easy to collect for DNSPs and so this reporting will not impose material cost on consumers.

**In this regard, ATA recommend that in the interest of transparency and better benchmarking, both planned and unplanned interruptions for SAIDI and SAIFI should be reported.**

**ATA recommend that reporting of MAIFI should be reported by default, however jurisdictional target setters should have the discretion to choose to exclude reporting MAIFI where the costs of doing so are clearly greater than the consumer benefit.**

## **Question 2 – Customer Consultation**

ATA generally support the AEMC's position on customer consultation.

Noting our earlier points on VCR, **ATA recommend that customer consultation for determining VCR must extend beyond public surveys, to more rigorous consultative measures such as, but not limited to, workshops, focus groups and opportunities for written submissions as appropriate.**

Noting also that it is challenging for consumers advocates to engage with multiple DNSPs around concurrent processes (see also our response to Q6, below), **ATA recommend that the target setter in jurisdictions with more than one DNSP establish a consumer working group to facilitate effective consumer input into target setting across multiple DNSPs.**

ATA are of the view that customer consultation should consider measures to notify customers of outages.



### Question 3 – Economic Assessment Process

ATA strongly supports the proposed economic assessment process outlined in chapter 5.1.2.

### Question 4 – Worst Served Customers

ATA are of the view that jurisdictional target setters should have limited flexibility in setting additional obligations for worst served customers.

ATA note that our proposed treatment of VCR (refer to 3.1 in this submission) may allow for better identification of opportunities cost effective improvements of supply to worst served customers using DSP.

By way of example, for a capital outlay of approximately \$10,000, recent ATA modelling<sup>3</sup> demonstrates that a DNSP could provide a grid interactive battery-inverter system with storage capacity to either:

- supply all the energy needs of an average residential energy consumer for network outages of 10 to 14 hours at a time; or
- allow the same consumer to run all their appliances ‘as normal’ while drawing no more than 1kW from the network at any one time.

This is would be a far cheaper solution in some circumstances where used as an alternative to grid upgrades to meet reliability (or other) requirements.

### Question 5 – Consistent Definitions & Exclusions

Regarding benchmarking, as noted earlier, in ATA’s view all outages have customer impacts and so should be reported.

We also note that data for planned outages is relatively easy to collect for DNSPs and so this reporting will not impose material costs on consumers.

**ATA recommend that in the interest of transparency and better benchmarking, both planned and unplanned interruptions for SAIDI and SAIFI should be reported.**

The AEMC states on p32 that:

*“...measures of the value of placed on reliability by customers are based on a survey of responses...”*

We note however, as per page 3 of Oakley Greenwood’s 2011 report *Valuing Reliability in the National Electricity Market*:

*“Two general approaches have been used for calculating the value of customer reliability (VCR) or similar measures such as the value of unserved energy, or customers’ willingness to pay for increased reliability or willingness to accept compensation for outages. These are model-based approaches and survey-based approaches. Several variants exist within each of the two basic types...”*

---

<sup>3</sup> Modelling is available upon request.

ATA questions the AEMC's rationale that for setting targets, an Energy Minister who may have a political motivation towards a particular outcome in a particular area, is a more suitable party than an independent, resourced body such as the AER.

### Question 6 – Applying across Jurisdictions

ATA is of the view that the proposed framework allows ample flexibility to apply to different locations and jurisdictions.

ATA is of the view that while the proposed framework will go some way towards realising the benefits of national consistency, the potential exists for too much divergence between distributors within the same jurisdiction and so it is likely to remain challenging for ourselves and other consumer advocates to engage as effectively with the target setting process and related processes.

### Question 8 – Nationally Consistent Incentives

ATA strongly support the Commission's statement that *"...a transparent and effective incentive structure is likely to reduce the long-term costs of maintaining reliability, thereby reducing costs to consumers"*.

Transparency will be the key to consumers understanding the relationship between the costs and benefits of a particular level of reliability delivered under any national approach. In ATA's direct experience, network businesses have a poor record at making publicly available critical information that can assist consumers to understand the justification for certain costs and resultant benefits in this regard.

### Question 9 – Reporting

In ATA's view, reporting must be:

- transparent and accessible;
- produced annually;
- standardised;
- detailed enough to be meaningful; and
- descriptive of trends and changes.

Thank you for the opportunity to provide comment to this process and please do not hesitate to contact us at [Craig.Memery@ata.org.au](mailto:Craig.Memery@ata.org.au) on 0412 223 203 should you have any queries regarding our submission.

Yours sincerely

**Craig Memery**