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Dear Energy Market Transformation Project Team

## **Consultation on Regulatory Implications for Stand-alone Energy Systems**

### **1. General Comments**

AusNet Services is pleased to have the opportunity to make a submission in response to the Energy Market Transformation Project Team's consultation paper dated 19 August 2016, on regulatory implications for stand-alone energy systems.

We recognise the interest from parts of the community in exploring various forms of localised independence from the centralised energy supply system. The COAG Energy Council initiative is timely, and its outcomes may lead to regulatory arrangements which facilitate implementation where such options are efficient, and ensure appropriate customer protections associated with this form of provision of essential electricity supply services.

The consultation paper identifies 4 scenarios through which stand-alone energy systems are or could be deployed<sup>1</sup>. These are:

- existing remote locations;
- greenfield developments;
- distributor led transition from the interconnected network; and
- brownfield / community led transition from the interconnected network.

The consultation paper notes that in general, stand-alone systems are currently not captured under the national frameworks<sup>2</sup>.

However, it is clear that a distributor led transition (DNSP model), as depicted in the consultation paper, arises as a result of the Distribution Network Service Provider (DNSP) responding to regulatory incentives and obligations. The identification of a stand-alone system as a preferred investment would mean it has been assessed to be the most cost effective investment that the DNSP would make to continue to provide the requisite level of network service. Such an assessment means this decision is in the best interests of all customers connected to the network. The assessment of options by the DNSP occurs in accordance with the practice required by the National Electricity Rules (NER), for example, the NER require the DNSP to provide a description of alternative options considered by the DNSP, with the expectation that these may include options which are not 'like for like' asset replacement<sup>3</sup>.

For the other scenarios, there may be reasons in addition to pure economic efficiency that drive interest in establishing a stand-alone energy system. For the brownfield / community led

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<sup>1</sup> Consultation Paper, page 7

<sup>2</sup> Ibid, page 4

<sup>3</sup> National Electricity Rules, Schedule 5.8, section (g)

transition in particular, this choice has the potential to impact all electricity customers connected to the regional network. Impacts for other customers could arise due to a reduced number of customers contributing to the unavoidable costs of providing 'interconnected network services', and potentially from the loss of ability to share the Distributed Energy Resources of the stand-alone precinct with the broader customer base. Put another way, a policy framework that is designed to benefit customers that choose to disconnect from the central grid is likely to increase costs for those that remain connected. Where there is a practical 'interconnected' solution the framework should require independent assessment and transparency on relative economic efficiency compared with the stand-alone energy solution, to inform potential participants in the arrangements.

Additionally, in a sector where customers are increasingly able to, and are encouraged toward, exercising choice, the slow pace of achieving cost reflective network pricing is a significant issue, potentially encouraging premature and inherently inefficient development of stand-alone power systems. The Project Team's considerations should include the implications of distortionary network pricing in light of new technologies and potential for alternatives to grid connected supply.

## 2. Comments in Relation to the DNSP Model

AusNet Services has been giving consideration to the use of stand-alone energy systems to achieve the objectives described in the consultation paper in association with the DNSP model. This is both as a general consideration for efficient investment decision making, and in relation to a current specific situation. This is in the context of an obligation to replace some overhead lines with underground cable, as a fire risk mitigation measure. For certain fringe of grid situations we believe a stand-alone energy system, in this case Remote Area Power Supplies (RAPS) which serve individual customers, would provide a more cost effective solution than to undertake the network asset replacement.

It is important to note that in this situation the RAPS solution benefits all customers assigned to the tariff classes which rely on these assets, but would be an expensive option for the individual customers to choose for themselves. This is because the customers access network tariffs which are based on average costs to serve the customers in the class, whereas the asset replacement requirement exposes the true cost to serve these customers. Even if more granular geographic network pricing was introduced, for example at the zone substation level, this effect would occur.

The service logically therefore remains a regulated service, and the assets / costs would need to be included within the DNSPs revenue calculation. There are two issues to be resolved:

- a. Currently, whilst the NER requires DNSPs to consider options, it does not contemplate the implementation of a stand-alone solution. Principally this is a result of the NER definition of 'distribution services' being linked to interconnected networks. This has been identified by Western Power, which has submitted a Rule Change Request to address this issue<sup>4</sup>.
- b. The follow-on question is what market arrangements would apply in the event of separation of a customer from the interconnected system (in relation to this scenario specifically).

In our view, the benefits and protections enjoyed by the customer from being a customer of the NEM should be preserved, and if these were to be removed due to separation from the interconnected network this will be a significant barrier to the DNSP model.

We have accordingly given some thought as to the market arrangements that could be implemented, and we conclude that this could be done in a way that would cause no disruption to the customer's supply arrangements. A market arrangement that may achieve the outcome is described in the attachment. In summary, we envisage arrangements where:

- the RAPS energy is metered as input to the market, with the generator revenue from NEM settlement off-setting the costs of operating the RAPS;

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<sup>4</sup> Rule Change Proposal by Western Power, Alternatives to Grid Supplied Network Services, published on AEMC website under 'pending' status

- The customer's consumption would also be metered (this is identical to the generation) and form the basis for retail billing. There would be no impact for the customer's choice of retailer, nor changed risk for their retailer; and
- The DNSP's obligations in respect of these customers would not change, e.g. STPIS and GSLs would continue to apply.

### 3. Concluding Remarks

In AusNet Services view, the DNSP model is one which is likely to identify early clear examples of stand-alone energy systems being economically beneficial. Ensuring this approach is supported by the national electricity framework should be a priority of the COAG Energy Council.

AusNet Services is a member of the ENA, and supports the responses submitted by the ENA to the questions posed by the project team in the consultation paper.

We would welcome the opportunity to meet with COAG EC officials, the transformation team etc to discuss the implementation of the DNSP option and regulatory arrangements to support this.

Yours sincerely,



Kelvin Gebert

**Regulatory Frameworks Manager**

## Attachment – market model option

# Possible Retail Arrangement for Distributor Lead Transition from Interconnected Network

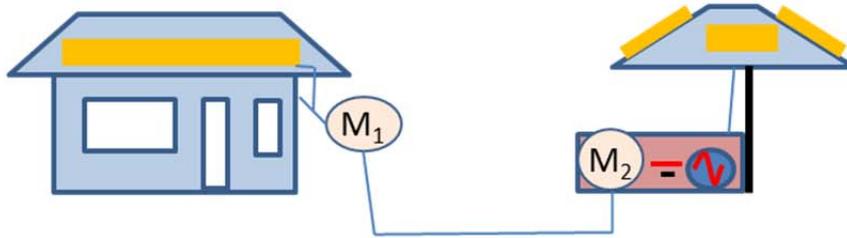
# Scenario

DNSP provides a stand alone energy system, such as a remote area power supply (RAPS), after determining it is the most efficient option to supply a remote on edge of grid area.

# Objective

Objective is to preserve the benefits and protections enjoyed by the customers, by being a customer of the National Electricity Market (NEM)

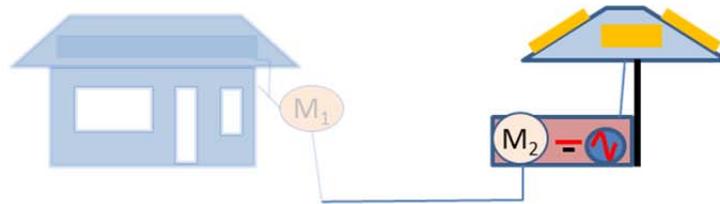
# RAPS in a DNSP led scenario



## High level Summary

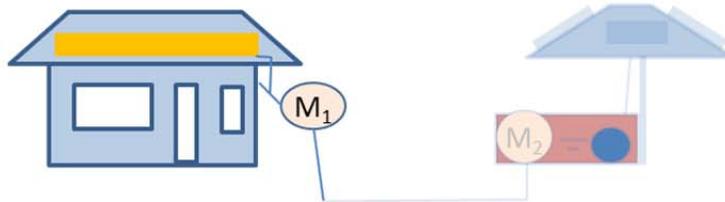
1. RAPS generated energy is metered generation
  - a National Metering Identifier (NMI) is established to register and account for the energy flowing into the NEM.
2. The customer's consumption would also be metered (this is identical to the generation) and form the basis for the customer's retail billing.
3. The DNSP's obligations and customers' rights would not change i.e.:
  - the customer receives the same reliability standards, access to retailer of choice and customer protections as other customers in the network

# Generation



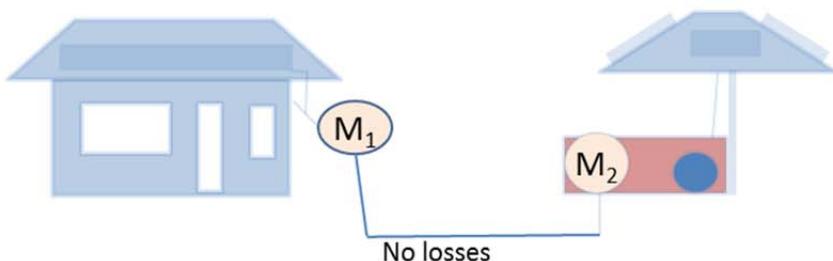
1. Generator revenue from NEM settlement offsetting the higher costs of operating the RAPS.
2. The RAPS generator is registered in the Market Settlements and Transfer System (MSATS);
  - the DNSP would procure the revenue collection service from a third party (competitive market participant);
  - the Market Participant would administer and receive revenue from the energy generated;
  - the Market Participant would then compensate the DNSP for the value of the energy (less their fee for administering the energy sale); and
  - any revenues received by the DNSP for the energy would be netted out of regulated revenue as negative opex.
3. Australian Energy Market Operator (AEMO) manages the market settlement process and makes payments to the Market Participant for the generation.
  - Paying the regional spot price for each measured unit of energy in 30 minute blocks; and
  - RAPS generation is not dispatched by AEMO.

# Consumption and Regulation



4. Consumer protections and reliability of supply still apply:
  - outage notifications;
  - GSL payments;
  - life support registration; and
  - retail billing conditions
5. Pricing
  - Customers have the same easy access to Retailer of Choice as any other customer
  - The sites supplied by RAPS generation would have any Network Tariff or Retail Tariff available to residential customers.
6. Asset classification and regulatory treatment
  - RAPS assets would be included in the RAB and the costs of operating and maintaining the generation assets included in DNSP opex - all funded by regulated revenues (Network Tariff); and
  - classified to be providing distribution services (e.g. Western Power rule change proposal)

# Metering



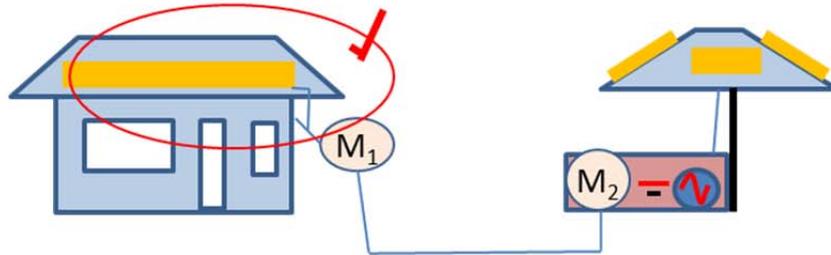
## 7. Metering:

- Generation and consumption must be metered
- A logical meter or a second physical meter is required.
- Contestable Metering arrangements can still apply

## 8. Marginal Loss Factors (MLFs) and Distribution Loss Factors (DLFs)

- The RAPS generator provided would be assigned the same DLF and MLF as the consumption; and
- does not appear to be different to any other site physically connected to the distribution system

## Alterations and Introduction of New Sites



### 9. Consumer installs additional micro embedded generation:

- Customers may still deploy additional solar micro embedded generation behind the meter; and
- RAPS equipment would need to be robust enough to manage this scenario.

### 10. Increased load

- RAPS designed to meet customer agreed demand
- Distributor to provide customer cost to upgrade RAPS for increased demand

### 11. New customer connections

- Where the cost to customer for a grid connection is high and a competitively provided RAPS could be the economic solution.