SP AusNet™
A member of Singapore Power Group

5 October 2012

Mr Eamonn Corrigan
Director
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Via online lodgement

Dear Mr Corrigan,

AEMC Draft Advice "Energy Market Arrangements for Electric and Natural Gas Vehicles"

SP AusNet welcomes the opportunity to contribute further to the advice to SCER on the development of arrangements for Electric and Natural Gas Vehicles in the energy market.

SP AusNet has provided extensive input on this matter in previous responses, to the AEMC's Approach Paper in late 2011 and to the AEMC's Issues Paper in early 2012. We have not attempted to reproduce that input here, but rather have concentrated on the specific recommendations and related Questions posed in the AEMC's Draft Advice document.

The key aspects of the attached submission include:

- Market and metrology arrangements for Electric Vehicle (EV) charging loads should be kept as simple as possible. Many of the requirements for providing the right price signals to EV customers, and to enable customers to benefit from the DSP opportunities offered by EVs, can be achieved through distributor and retail tariff offerings.
- We believe the AECOM study significantly overstates the likely EV take up rate in Australia. In the short to medium term whilst EV numbers are low, current market and metrology arrangements should be maintained as the basis of EV market and metrology arrangements albeit with some changes to details.
- Any market and metrology change options considered, and potentially adopted, need to be practical and well developed through industry involvement.
- The special situation in Victoria (25% of the NEM) where all customers below 160MWh pa after 2013 will have interval meters meeting the Victorian Minimum AMI Functionality Specification must be recognised in any outcomes.

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Each of these aspects are developed in the general comments on the Draft Advice in Sections 1 to 4 of the attached submission, and in the subsequent sections which respond directly to the recommendations and related questions posed by the AEMC.

Finally, we note that in a number of areas, aspects of industry and customer arrangements for EVs are relevant to the broader consultation on demand side participation and SP AusNet will contribute to these matters through our submission on the Power of Choice Draft Report.

If you wish to discuss this submission further, please contact Peter Ellis, Manager Network Services on (03) 9695 6629.

Yours Sincerely,

Alistair Parker
Director Regulation and Network Strategy

SP AusNet Submission

AEMC Draft Advice "Energy Market Arrangements for Electric and Natural Gas Vehicles

GENERAL COMMENTS

1. Multiple FRMPs for a premise

The Draft Advice does not provide sufficient assessment and evidence to provide the basis for a clear opinion as to whether there is justification for a 'two retailers per premise' market approach. This approach would require a significantly more complicated market interface and a high cost to establish this. The AEMC identifies market and operational issues (section 3.5 of the Draft Advice) and this submission discusses potentially significant system and transaction change costs associated with shifting from the existing model (section 14 below).

SP AusNet has no firm opinion as to whether this approach give customer access to better tariff options for their EV charging load. However we consider that the base level approach for providing the right price signals to EV customers, and to enable customers to benefit from the DSP opportunities offered by EVs, is through distributor and retail tariff offerings.

Shifting away from this existing simple market model would require justification in terms of clear benefits for consumers, in accordance with the NEO. As noted above, the draft advice does not appear to provide a basis for such a decision to be made. The take-up of EVs is expected to be very slow, as discussed in Section 3 below. Hence it is also important that the economic justification and implementation of any market approach adopted specifically for EVs recognises the expected slow take up of EVs in the short to medium term. This would better enable these changes to be implemented at an efficient point in time in Participants' systems development timelines, and for distributors at an appropriate time in their price review cycle so that the expected large system and process change costs can be appropriately recovered through approved prices.

2. SP AusNet position with respect to metering arrangements

A range of metering options are feasible to support the provision of the right price signals to EV customers, and to enable customers to benefit from the DSP opportunities offered by EVs through distributor and retail tariff offerings. The Draft Advice discusses a number of these metering options, and Sections 11 to 13 of this submission provides specific comments on these options.

As noted above we believe metering and tariff arrangements for EVs and other DSP should be as simple as possible to achieve the desired outcomes. The Draft Advice dismisses with limited consideration the use of simple market arrangements supported by a single element market interval meter. However, many of the industry tariff driven approaches to providing appropriate cost signals and customer DSP benefits can be achieved by this model without the process and systems changes required to support more sophisticated EV charging options. Additional data as it relates to individual loads within a premise that may be required by other parties, retailers, on sellers, customers etc. can be supported by sub-metering which is not part of the market regulated metrology.

Further the Advice does not contemplate in any depth the range of considerations which apply to control of the EV load. Whilst tariffs can be designed to provide the financial incentives for customers to charge their EVs at times with reduced impacts on network and

generation loadings and costs, the optimum approach from the average customer's viewpoint is likely to be a controlled charging approach that automatically restricts charging to a period where their tariff rates are at the optimum. This would be analogous to the situation which currently exists in a premise with electric hot water where the distributor provides a "switching service" to optimise heating times both from the customer's and the network's viewpoint.

The services with respect to time based switching capabilities available from readily available interval/smart meters will hence have a significant impact on the metering arrangements selected. Whilst the Victorian Minimum AMI Meter Functionality Specification does include a single element meter with an integrated load control contactor, this configuration of meter has generally not been installed in premises and is not currently one of the industry purchased configurations. Further whilst some Victorian businesses have utilised 2 element meters with an integrated load control contactor, this is not a standard specification and has only been approved as part of the rollout for cost recovery where used to maintain current customer dedicated circuit tariffs.

In Victoria and interstate the choice of metering configurations are going to be influenced by the smart meter configurations available including the type of in-built load control.

Finally, for this Section, we wish to note that the AEMC's view of costs (referencing information from Betterplace) are not a good basis when comparing metering options, as the prices quoted are for low volumes in an area where industry and electrical contractors do not have routine practices (refer Section 11.1 for more detailed discussion).

3. EV take-up timing and industry change

Market development for EVs, and to the extent that EV specific arrangements are necessary, should be proportionate to their expected take-up over time.

SP AusNet is developing an understanding of how EV charging may influence network loading over the coming years and decades. This includes investigation into actual and forecast take-up rates, and studies and projects to better understand the nature and potential growth of EV charging load, and network impact. We have custom-built several EVs in partnership with the CSIRO as part of this assessment. We continue to monitor EV take-up trends.

From this work our view is that the AECOM study has significantly over estimated the future rate of EV take-up in Australia.

Our analysis, from a wide range of sources and across a number of global areas, of overseas trends and programs, reveals that even the AECOM low case is optimistic. In our view the predicted take-up would likely only be experienced if substantial subsidies are introduced. In addition, overseas subsidised markets are already showing strain, falling behind expected take-up rates and exhibiting failure amongst smaller manufacturers.

Australia is likely to lag the rest of world in take-up of EVs. There are a number of factors contributing to this, such as higher pricing due to its geographical location, different car geometry and safety requirements, longer travelling distances, relatively lower fuel prices, and expected continuation of a relatively high Australian dollar. The introduction of subsidies is an unlikely eventuality when the contribution of renewables to electricity generation is still relatively low compared to European countries.

Having regard also to our conclusions from the earlier sections of this submission, our conclusion is that market development for EVs, and to the extent that EV specific arrangements are necessary, should be proportionate to their expected take-up over time. Hence, in our view, the adoption of the higher impact changes e.g. multi-element meters with

multiple FRMPs is not warranted in the near term. As EV numbers increase these options can be further considered and if then justified, implemented through a rigorously considered regulatory and process change process. This approach will facilitate a smooth, better focussed ramp up of EV service options as EV numbers increase, which ultimately will provide the best customer experience and minimise overall industry costs, and hence in the long run minimise costs to consumers.

4. Third party provider regulatory controls

As market arrangements develop, a most important consideration is that any party controlling load blocks must have regard to and be responsible for the potential distribution network impacts of their load block switching actions.

The energy retail framework will need to develop to accommodate third party providers for services relating to EV charging and other DSP loads. These new participants will have impact across various sectors of the electricity supply framework.

The Draft Advice recognises that EV market offerings will include models where third party providers and agents rather than Authorised Retailers, Distributors or parties under the current AER exemption framework provide EV charging services and manage customer EV charging load. Further as also recognised in the Draft Advice, EV charging is just one type of DSP load and third party providers will be potentially involved in a similar way across the whole range of such loads.

Whilst the relationship of these third party providers with customers will be subject to the normal customer protections applicable to the marketing and sale of goods and services, under current energy market regulatory arrangements these providers will not be specifically subject to the regulatory regime imposed on Authorised Retailers, Distributors or parties under the current AER exemption framework.[1] Whereas Authorised Retailers, Distributors, or parties under the current AER exemption framework are recognised in the energy market law (National Electricity Law and National Energy Retail Law), and in the associated Rules and subsidiary documents, third party providers currently do not have this specific energy industry coverage.

The services which these third party providers are likely to offer can be considered at two levels, from an individual customer level, and in an aggregator role.

At the individual customer level there are a number of areas of potential issues which could impact energy customers and/or other market participants including:

- Marketing and sales approach;
- Energy data and billing;
- Breaches of confidentiality either accidentally or intentionally;
- Load control actions accidentally, intentionally, or maliciously carried out not in the customer's best interest

  Many of the services offered may include a level of control to enable best advantage to be taken of varying market prices and load contracts. These controls will generally be provided remotely. Where Participants establish these remote controls, industry agreed standards of system and communications security will be mandated to protect against accidental or external driven unwanted control actions. These same standards need to be applied by third party providers;

[1] As outlined in Section 13.2 of this submission the regulatory framework for parties under the current AER exemption framework is less defined than required and recommend further consideration to overcome this shortcoming of the regulatory regime.

- Inability or reluctance of third party providers to utilise industry AEMO agreed data systems and market processes and transactions

  There are a number of market customer and connection point parameters e.g. connection point status, which must be maintained through Participants' interfaces to market systems. There are numbers of service requests and data exchanges which are carried out through standardised and automatable B2B processes and transactions. Currently third party providers do not have access to market systems nor B2B.

The concept of third party providers having control over a block of EV or other DSP load presents a more significant issue from a distributor viewpoint. A load block of controllable load if switched onto a distribution network (or in some situations switched off the network) could adversely impact the network if the step change is large, and/or if switched at an inappropriate time of day, and/or if switched when the network is vulnerable e.g. extreme weather; non-normal operating configuration. Impacts could include voltage level issues, protective device operation, or immediate or long term equipment damage.

Hence mechanisms will need to be developed to ensure that when such load block switching is contemplated potential network impacts are given full consideration. Industry participants have a level of agreement in principle that these type of mechanisms need to be in place, but specifics have not been developed. It is recognised that this is a complicated aspect of the developing market, particularly as the distribution network condition and potential impact could be quite dynamic. All service providers whether Participants or third party providers would need to comply with protocols that may be established. Aspects of the protocol may involve specific contact with the distributor, and industry B2B would likely be the basis of this.

Further, accidental or malicious switching of a load block caused by unreliable controls or a security breach could also lead to these types of network impacts. Again, industry participants have some agreement in principle that a protocol is required regarding system and communication security.

If there are load block switching actions which impact on network elements there could be significant regulatory and financial impacts on distributors. For example increases on "minutes off supply" figures have a direct impact on distributors' costs through factors in our access arrangements. A regulatory framework is required that ensures that a distributor is not financially impacted by other's actions or inactions.

The regulatory framework dealing with:

- the establishment and enforcement of the network impact protection arrangements;
- the system and communication security operational protocols; and
- the compensation of networks for impacts of load block switching by others,

needs to be applied to third party providers. Hence a component of the market model for increased third party provider involvement must be a mechanism which ensures suitable obligations are placed on these providers. To make certain that these providers are clearly identified and have the capabilities required in their systems and processes, the market model must include a registration and authorisation approach with similar attributes as applied to current market Participants.

FEEDBACK ON SPECIFIC DRAFT RECOMMEDATIONS AND AEMC QUESTIONS

SP AusNet has modelled the structure of our comments and conclusions on the Draft Advice on the structure of the AEMC's Draft Advice paper.

We have reproduced the content of each Draft Recommendation box from the Draft Advice paper and followed this with our related comments and issues on the AEMCs arguments and outcomes.

We have then reproduced the related Question(s) from the Draft Advice paper and followed this with a summary statement of the SP AusNet position in response to the question and any other key points from SP AusNet detailed comments.

5. Advice 2.1 Pricing signals to encourage efficient behaviour

Box 2.1: Draft recommendation

Our power of choice review found that the current network and retail tariffs do not necessarily reflect the cost of supply and the delivery of electricity. This means that most consumers currently do not have options to capture the value of DSP activities. Therefore, the current pricing arrangements are unlikely to promote efficient charging behaviour for EV consumers.

Although efficient behaviour requires high use consumers to face cost-reflective prices, we do not recommend mandating specific price structures for residential EV consumers because:

- EVs should be treated as other forms of large load and DSP and the power of choice review will provide advice on how the market could move towards more cost reflective prices; and
- retailers and networks can still develop their own EV specific tariffs to incentivise efficient behaviour.

Also, we recommend that:

- there may be merit in having some form of geographical variation in the DUOS charges to better focus the network costs onto the EV consumer and to address the effects of EV uptake clustering in particular locations at the early stages of the market; and
- meters with interval read capability are necessary to enable consumers to be incentivised to behave in a manner that yields efficient market outcomes. The power of choice review is exploring how high use consumers, such as large load consumers, can be allocated interval (or other time varying) meters to facilitate efficient behaviour.

5.1. EVs and other large loads, and tariffs.

The introduction of interval meters for all customers will ultimately enable distributors and retailers to set efficient tariffs for their services. Interval metering will also mean that for the first time ever retail pricing and distributor pricing can be de-coupled and thereby enable efficient retail pricing to be overlaid on the efficient distributor prices.

SP AusNet agrees that it is desirable that EVs should be treated in the same manner as any other large load block. From a distributor perspective it is the total load at a connection point, and the usage profile of that load, that is the cost driver, not what the load is specifically.

In the SP AusNet submission on the Power Of Choice Draft Report fuller consideration has been given to the use of tariffs to provide the appropriate price signals to customers to best support the market and customer desired outcomes from DSP.

5.2. Geographic Pricing

SP AusNet sees that there is some merit in geographic pricing and such price signals are bound to emerge in time as a broad move to more cost reflective pricing develops. The present structures of "postage stamp" prices have endured because of the ongoing government views regarding urban/rural price differentiation, and strict limitation and controls in the National Electricity Rules (NER) on how prices can be adjusted from one year to the next. Any move to recognise and pass through localised costs of shared augmentation caused by clustered EVs would need to be made with this background in mind. Potentially a wide range of interlocking arguments regarding various crosssubsidies and economic drivers would arise which would make this debate very complicated.

Refer also SP AusNet comments re network connection in Section 6 of this submission.

5.3. Interval Metering

Interval metering is fundamental to efficient pricing. Interval metering enables multi rate time of use pricing that targets a network's periods of constraint. This form of pricing can also be flexible and responsive to the changes in behaviour that it brings about.

Victoria already has a mandated interval meter installation program that will be completed within the next two years. In Section 2 and 12.1 of this submission SP AusNet has pointed out aspects of the EV market arrangements and metrology which will be influenced by the Victorian situation of having full smart meter coverage.

Question 1 EVs and pricing

Do you agree that efficient EV charging behaviour should be incentivised through network pricing signals? If so, what arrangements are necessary to implement these pricing signals?

SP AusNet agrees that EV charging behaviour should be incentivised through network pricing signals.

To enable such incentives to be established interval meters are fundamental. In Victoria, following its recent review of the smart meter program, the Victorian Government announced that it supported (on a voluntary basis) introducing time-of-use pricing. We support the Victorian Government's view that the introduction of time-of-use pricing must be undertaken in an orderly way.

Network pricing signals are only a part of the pricing signal ultimately delivered through time-of-use tariffs. From a customer's perspective other parties load management products and other service offerings could complement network pricing signals or they could be overlapping and either additive or conflicting. Efficient dynamic pricing of both network and energy is the ideal basis for the harmonious co-existence of these products and services.

Reference should be made to the SP AusNet submission on the Power of Choice Draft Report for a more comprehensive discussion on the customer incentives offered through network and retailer tariffs.

6. Advice 2.2 Connection to a distribution network

Box 2.3: Draft recommendation

We consider that the connections charging framework administered by the AER is appropriate for EVs connecting to a distribution network and we are not proposing any changes. The framework for setting upfront connection charges under Chapter 5A of the NER allows for the possibility of applying a connection charge to EVs connecting to a distribution network depending on the nature and size of the connection.

We consider that further work needs to be done to clarify the industry and policy expectations regarding the specifics of how customer maximum demand considerations are handled in the context of the new National Energy Customer Framework (NECF) connection model. In Victoria the current default Electricity Distribution Contract Standard Terms and Conditions contains a concept of "maximum allocated capacity". Although the specifics of this clause are somewhat unclear and the interpretation and application in the various Victorian distributors is not entirely consistent, it does nevertheless provide a basis for distributors to impact on the cost structure for customers with high demands.

The NECF Model Terms and Conditions for deemed standard connection contracts does not include any concept of "maximum allocated capacity" and it has been agreed that in Victoria the concept should be covered in the Victorian Service and Installation Rules (SIRs) which have a head of power in the NECF. Debate with respect to how this was to be treated in the SIRs was underway when the NECF implementation in Victoria was delayed.

Under the broad requirements of NECF (NER Chapter 5A), and the AER's Connection Charge Guidelines for Electricity Retail Customers, the distributor generally will not be able to recover shared augmentation costs from most EV customers. It should be noted that potential charging loads could be 32 A. Chargers of this rating are on the market now and provide more rapid charging. This is a larger step change in load (around double to triple) than the more "traditional" step imposed by customer installation of air conditioners and pool pumps. A customer installing such a large EV charger, despite potentially contributing directly to a need for local network upgrading, is still very unlikely to cross the threshold as defined in the AER's Connection Charge Guidelines. However they are more likely to need to pay to upgrade their direct connection assets to allow for the increased capacity needed for EV charging.

Whilst the basis of this approach is accepted by SP AusNet, it does mean that the customer with a large EV load is potentially being subsidised by other network users. Whilst difficult to model, depending on a number of factors including degree of concentration and time spread of clustering, charging models and times, and pre-existing local network strength, EV take-up could result in upwards pressure on broad network tariffs under the levels of threshold indicated in the AER's Connection Charge Guidelines.

In seeking to reduce cross subsidisation and broad upwards tariff pressure (and/or reduce system peak demands) distributors will be offering time of use tariffs which reward moving charging to off peak periods. Linking this tariff signal with a controlled charging mechanism would from a distributor's viewpoint, add a degree of certainty that the EV charging will remain in the optimum time period to enable reduced system costs to be realised ie cross subsidies to be reduced.

7. Advice 2.3 Controlled charging

Box 2.4: Draft recommendation

We consider that the right to the benefits of controlled charging ultimately lies with the consumer. This right can be assigned by the consumer to other parties in exchange for benefits to the consumer.

To realise the benefits of controlled charging, effective commercial relationships (or contracts) between the consumer and potentially DNSPs, retailers and aggregators are required. We recognise the role that third parties (such as aggregators) can play in negotiating (on behalf of the consumer) the allocation of benefits between multiple parties.

To assist these third parties in negotiating the benefits of controlled charging so that it is captured in commercial contracts, it may be necessary to set some regulatory guidance on the steps to take in the negotiation process and possible measures to assess the value of DSP to aid the negotiations.

The power of choice review is exploring how the energy market arrangements should support these contracts.

SP AusNet's initial view is that the fundamental basis of the approach being taken within the Draft Advice is not consistent with the situation which may apply where controlled charging is part of the tariff offering of the distributor. Under the broad requirements of NECF (NER Chapter 5A), and the AER's Connection Charge Guidelines for Electricity Retail Customers, the distributor generally will not be able to recover shared augmentation costs from most EV customers (refer SP AusNet comments in Section 6 of this submission).

Hence the customer will not be feeling any cost pressures above their potential direct connection upgrade costs if required, and hence the concept of having the decision resting with the customer is somewhat flawed.

Question 2 Controlled charging

Do you have any suggestions on how to improve the method for valuing non-firm benefits and improving the negotiation process among multiple parties so that the diverse benefits of controlled charging are captured?

Any consideration of the valuing of the non-firm benefits should be balanced by some consideration of the costs of uncontrolled charging which is not reflected as costs to the EV customer, but rather to all other network customers.

8. Advice 2.4 Vehicle-to-Grid

Box 2.5: Draft recommendation

We consider that the right to control the discharge of an EV back to the grid resides with the EV consumer.
The consumer can assign the costs and benefits of EV discharging to other parties (eg. retailers, DNSPs, aggregators) in exchange for consumer benefits through commercial relationships (ie. contracts). There is a role for third parties to negotiate on behalf of consumers the set of benefits falling across multiple parties.

Whilst the decision with respect to EV battery discharging does rest with the customer, this decision must be made with the recognition of the obligations and requirements which comes with any generation on the distribution network. These obligations and requirements would be fundamentally the same as those that currently apply to solar cell generation installations. Many of these obligations and requirements are required to ensure the safety

of distributor line workers and other customers in adjacent properties. It is particularly important that under planning or forced network outage conditions that the generator whether solar or an EV battery does not continue to operate and back feed into the network. The protection to ensure this does not happen must be tested before the installation goes live and must be routinely tested to ensure ongoing performance.

These require over and above requirements for a load only installation or alteration:

- Certification from the solar generator installer, electrical contractor, and customer that testing has been carried out
- Certification understanding by the customer of need for ongoing testing, and commitment to do this.

Question 3 Vehicle to Grid

Should clause 7.3.1(a)(7) of the NER be amended to reflect the current early status of V2G? Should interval meters be required to have bi-directional capability?

The Victorian Meter AMI Functionality Specification (and the national Smart Meter Functionality Specification relatively recently endorsed by the SCER) include as a standard feature bi-directional measurement capability.

As obviously the AEMC would be aware of this, the question being put is presumably therefore the much larger one of whether the endorsed national Smart Meter Functionality Specification should form the basis of the installation of smart meters for EV or any other customers where regulatory requirements and/or market requirements and/or commercial drivers, require advanced capability smart meters.

It is SP AusNet's view that this must be the case if, as appears desirable, the ultimate aim is for all customers to have access to a minimum range of smart meter features and still maintain flexibility to change retailer with minimum or no meter charge penalty.

SP AusNet will contribute to this aspect of the market model in our submission on the Power of Choice Draft Report.

9. Advice 2.5 Identifying a large load (including an EV)

Question 4 Identifying a large load (including an EV)

1. **Should any loads above a threshold (eg. 15 amps) be identified to the DNSP? Could the Wiring Rules (AS/NZS 3000:2007) provide the basis for determining the maximum demand at a premise and provide the means by which an electrical contractor can notify a DNSP of a new or altered installation affecting maximum demand at that premise?**
2. **If there are no requirements to identify particular appliances, should there be a total load threshold above which identification to a DNSP is required?**

Electricity customers already have an obligation to inform their distributor or retailer of any significant changes to their load. Refer for example Section 9.2 of the Victorian Electricity Distribution Code.

Further, electrical contractors have obligations to ensure that a customer's connection assets (service line etc) can accommodate any step changes in a customer's load for which they are involved and request an upgrade where necessary.

In Section 6 of this submission, SP AusNet has discussed the recognised need for consideration of the "replacement" for the current default Electricity Distribution Contract (EDC) Standard Terms and Conditions Section 6.4 which contains a concept of "maximum

allocated capacity". This EDC requirement has an implied requirement for the customer to notify the distributor if they wish to increase their maximum allocated capacity.

Despite this range of obligations SP AusNet do have some concerns that, as identified in Section 2.1.2 of the Draft Advice , that EV uptake may "cluster" at particular geographic locations. This may lead to localised network overloading issues which if they are imposed over relatively short time frames would be difficult to detect with infrequent loading surveys.

SP AusNet is working to establish mechanisms using accumulated interval data from smart meters to more dynamically monitor loading on network components, but it will be some time until these are an established part of the network planning process.

Hence SP AusNet considers that a more specific obligation and reporting mechanism for the establishment of high capacity EV charging stations, including all residential establishments, should be established. SP AusNet considers that such an approach would need to be carefully considered in conjunction with the electrical contracting industry to ensure that a workable and effective process was developed and implemented.

10. Advice 3.1 Changing the definition of connection point and supply point for separate metering

Box 3.1: Draft recommendations

We recommend that the term 'connection point' in Chapter 7 and Rule 3.15 of the NER be replaced with 'supply point'. The supply point would be the point where part, or all, of the consumer's load would be metered.
In the remainder of the NER, the term 'connection point' would continue to refer to the point of physical connection between the network assets and the assets of the network user (consumer or generator).
This change would mean that a consumer that establishes an additional metering installation at its premises need not establish a second connection point.

As stated in the Draft Advice in Section 3.5.1

Currently, the NER is designed in the context of:

- a market participant or FRMP being associated with each connection point;
- each connection point having a metering installation that is registered with AEMO; and
- a unique National Metering Identifier (NMI) for each metering installation.

That is, there is generally a one-to-one relationship between a connection point, the FRMP, the metering installation and a NMI.

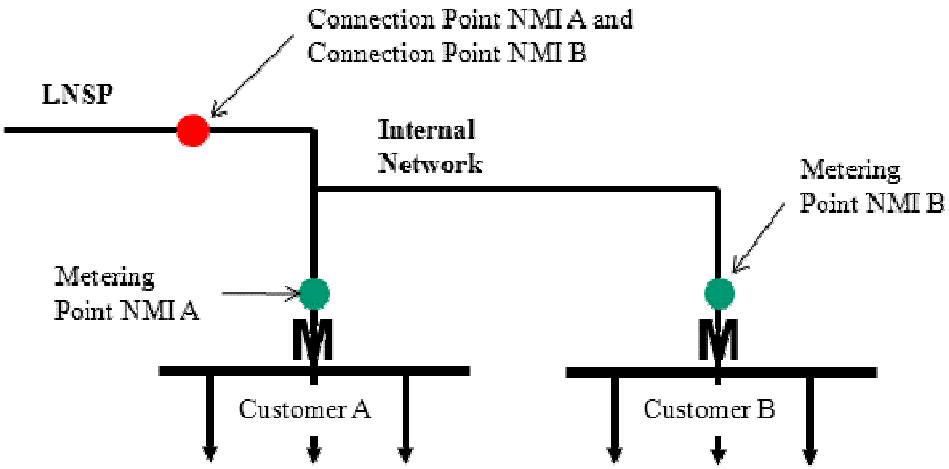
The NER (Section 7.3.2) includes the concept of a *metering point* which must be located as close as possible to the *connection point* [2] and further allows for an agreed approach as necessary to adjusting for losses between these points. Although less clear in market regulatory documentation[3], the market approach is that where a building or property includes

[2] It is hence unclear why in Section 3.1.1 the Advice states that the term connection point has two meanings including "the point where the associated energy …is metered"? The Advice contains a similar statement in Section 3.1.2. The Advice appears to have misunderstood the structure of *connection points* and *metering points* in the NEM.

[3] Eg Embedded Network Guideline Section 2.1 Point 2:

For the purpose of the embedded network arrangements child connection points can be either a connection point under the Rules, that is, a "classified" connection point, established between a NSP and a consumer, or a connection point within the embedded network that is not registered in accordance with chapter 2 of the Rules.

a number of customers without individually separate connections to a distributor's network, all these customers' connection points are coincident with the connection point of the building or property to the distributor's system. This is illustrated by the following diagram:



This could reflect the situation of a farmer with two loads; his home and his dairy. The connection points for both of the farmer's two NMIs would be for example at the Distribution Transformer at his property boundary. This is also consistent with section 13.12 of the NMI Procedure which shows "multiple connection points with all customer connection points reference (sic) the same point".

Note: This arrangement is generally only applied in these type of special scenarios. In a majority of circumstances, where two or more connection points and customers are connected at the one location, the distributor's expectation would be that the site be established as a dual/multiple occupancy installation with physically separate service lines from the common connection point to individual customer installations as defined in the SIRs. This arrangement provides clarity of supply and isolation requirements and hence reduces supply and safety issues.

However where Customer A and Customer B are the same householder with Customer A being the householder's general light and power load, and Customer B being their EV charge point or their air-conditioner or other DSP load this could be considered as a practical connection option, albeit with potentially some review of the detailed SIRs requirements with respect to separation and isolation, etc..

Question 5 Changing the definition of connection point and supply point

Do you agree that changing the definition of connection point and supply point in the NER should facilitate separate metering of loads (or generation)?

As outlined by SP AusNet above and as illustrated by the diagram, it is not necessary to introduce the concept of *supply point* as the market approach already provides a mechanism for recognising multiple *connection points* and *metering points* in a property.

As is illustrated in SP AusNet's input on other sections of this submission, the concepts which AEMC espouse with respect to arrangements for EVs and other DSP loads can be achieved without the new parameter of *supply point.* In the remainder of this submission

SP AusNet has adopted the use of the model we have advocated above and not used the term *supply point*.

Does the creation of this new definition produce any unintended consequences? Please provide reasons.

The introduction of the concept of *supply point* is a major restructure of market connection arrangements which would unnecessarily complicate the customer connection model in the market by introducing a superfluous additional level of interface. Whilst the Draft Advice is relatively unclear, it is understood that the concept proposed is that for most connections the *connection point* and the *supply point* would coincide and equate to a NMI; however that for a relatively small group of connections the *connection point* and the *supply point* would not coincide and NMIs would be allocated at the *supply point* level.

The specifics of how the AEMC intend for this to be implemented are unclear. Is the intent that there is a two level address structure established? That is: would the *connection point* address and the details of the *supply point* "address" both be required to be nominated and included in industry processes and systems? Ie *connection point* address 5 Smith Street; *supply point* addresses General Light and Power and Air Conditioning Plant ABC.

This type of implementation of the concept would entail significant change to Participants' and AEMOs' systems and to industry processes and transactions. This would potentially be a high financial impact across the NEM.

11. Advice 3.2 Parent/child metering at a site with a single consumer

Box 3.2: Draft recommendations

We recommend that a consumer be able to arrange for a parent/child (or subtractive) metering arrangement within its premises when:

- there is a single connection to the Local Network Service Provider (LNSP); and
- there is a single consumer at the premises (such as a residence or small business).

Under these arrangements:

- losses within the premises would be assigned to the parent meter;
- all fixed Distribution Use Of System (DUOS) charges would be assigned to the FRMP for the parent National Metering Identifier (NMI), unless otherwise agreed with the consumer; and
- the NMI for the child meter(s) would be assigned by the Responsible Person for the child meter.

The Draft Advice also makes it clear that in the AEMC's view this arrangement is not considered to be an embedded network.

11.1. Difference metering v's multiple meters

The Advice makes some statements with respect to installation of multiple meters at a site which leads to conclusions regarding the best metering options, including largely ruling out a multiple meter non-embedded network approach. It is stated that installing a separate meter at the customer's switchboard "can be relatively expensive", and quotes that Betterplace found the cost was a minimum of $1,000, although the Advice admits that the AEMC "have not verified these cost estimates".

SP AusNet makes the following points with respect to these costs:

- Cost of EV charger installation: SP AusNet has arranged the installation of EV charging stations as part of our EV trials. The labour and material costs for an

additional contactor at the switchboard, concealed wiring, and suitable power outlet in a garage to support a 32 Amp high speed charger is hundreds of dollars.

Note: i) This does not include potential upgrade to the customer's service line or switchboard.

ii) This is a base cost irrespective of the connection and metering option chosen, and includes no component of distributor charges.

- There are no current industry "benchmark" processes for the work necessary to install a second market meter on an existing meter panel nor for the installation of a market meter on an industry compliant meter panel remote from the parent meter panel in the embedded network situation[4]. Hence current experience may be that costs are higher than expected.

A key ultimate outcome of this Advice is likely to be industry regulatory and process change. As the volumes of EVs grow new benchmark processes with potentially new costing arrangements will be established. Further once installation options for EV chargers (or other DSP loads) become standardised then the Distributor and installation industry interfacing arrangements will be built into operational requirements (eg through the SIRs) and the issues currently encountered at times in "one off" installations will be reduced. This is likely to result in a one visit distributor service (ie matching the situation for an embedded network customer) and whilst an outage is required, this would generally be a short one with little consequence for a domestic customer.

Hence meter options for EV charging should not be ruled out for the long term based on current costs.

11.2. Single Customer embedded network

The AER's Electricity Network Service Provider (NSP) Registration Exemption Guideline does not have any specific barrier to the concept of a single householder or property owner being the Embedded Network Owner of a network consisting of their own premises and with them as the customer of both the parent NMI and also one or more contestable market registered child NMIs on the embedded network. Hence the AER's framework already allows an embedded network to be established where there is in reality only one consumer at the premise albeit with different parts of their load represented by the Parent NMI and Child NMI(s) within the embedded network.

Hence the concept of having a parent/child (or subtractive) metering arrangement within its premises is already available to the type of consumer under consideration in the Advice by virtue of their having an embedded network. Separate consideration is not required in the NER, or indeed in the Metrology Procedure, with respect to parent/child (or subtractive) metering.

Further in the market settlement process these installations must be nominated as embedded networks and be allocated an Embedded Network Identifier code. This code when allocated to the parent NMI and the child NMI(s) in the market ensures that the settlement system handles the difference metering arrangements in the market and correctly allocates the market energy costs to the multiple retailers potentially involved.

The issue which the AEMC appears to want to address is rather associated with the domestic customer who is allocated to the Parent NMI, having embedded network type obligations assigned to themselves with respect to their internal network supplying their other NMI(s) ie the Child NMI(s) for their EV charging station and/or air conditioner.

[4] Note that a market meter would need to be installed in a many compliant with the market metrology framework and with the SIRs. This includes aspects of accessibility etc.

SP AusNet agrees that most, if not all, the obligations placed on the embedded network exempt Network Service Provider through the AER Guideline appear to be unnecessary in the circumstance where all the embedded network NMIs fundamentally are the same customer.

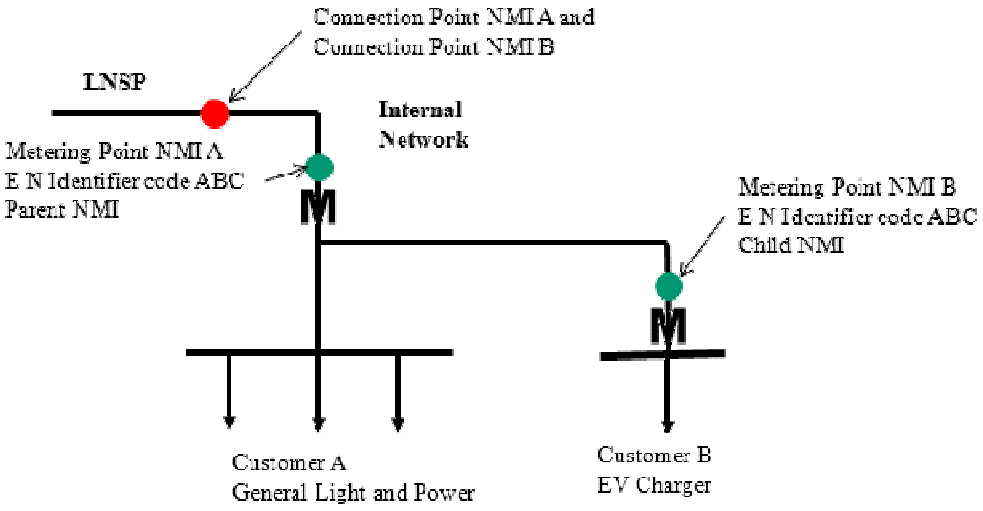
SP AusNet's recommendation hence is that rather than these single customer embedded networks being separately covered outside the AER's NSP Exemption Guideline and process, that they continue to be considered embedded networks under the Guideline. Rather the change required is for the Guideline to recognise the concept of a single customer embedded network and include relaxations of the embedded network owner obligations for network management.

11.3. Embedded network metering

The Draft Advice states that the requirements with respect to metering in embedded networks are uncertain. The Advice appears to overlook the metrology procedure which provides relatively clear basis for metering within embedded networks. Section 2.5.1 provides specific obligations for each jurisdiction which the Responsible Person must abide by with respect to metering. The AEMO Embedded Network Guideline specifies that the "Metering requirements and responsibilities for downstream NMIs registered in MSATS are the same as for all other market NMIs under the Rules and the Metrology Procedure". ie for a manual read meter (or a remote read AMI meter in Victoria) the LNSP is the default Responsible Person; if the meter is remotely read than the retailer (the FRMP) has the choice to be the Responsible Person, or seek for the LNSP to quote to provide this service.

Whilst in the shorter term there may be issues in establishing such arrangements for single customer embedded networks, the regulatory and metrology basis is clear. There does not appear to be any driver to write these details into the NER as suggested in the Draft Advice.

The model for a single customer embedded network with difference metering hence becomes:



Question 6 Parent/child metering arrangements

Do you agree that our proposals address existing issues with parent/child metering arrangements? If so, how should these arrangements be specified in the NER? Please provide reasons.

As argued above, SP AusNet considers that there is no reason for separate recognition of parent/child subtractive metering arrangements as these are already recognised in the AER and AEMO treatment of embedded networks. It is SP AusNet's view that the issues with respect to applying the AER and NER requirements for embedded networks can be better handled by recognising a single customer embedded network as a "special" subgroup with significantly reduced requirements and obligations.

SP AusNet has provided further comments with respect to embedded networks in Section 13 of this submission which deals with embedded networks specifically

11.4. Detailed recommended outcomes

In the Advice 's Box 3.3 Draft Recommendations some further detailed outcomes are proposed. We make the following comments:

11.4.1. **losses within the premises would be assigned to the parent meter;**

This is a fundamental outcome of the embedded network / subtractive metering model.

11.4.2. **all fixed Distribution Use Of System (DUOS) charges would be assigned to the FRMP for the parent National Metering Identifier (NMI), unless otherwise agreed with the consumer; and**

The model used for network DUoS billing for embedded networks is that the distributor charges DUoS for the customer of the parent NMI ie the embedded network owner, through the retailer/FRMP at the parent NMI. The AER's NSP Exemption Guideline then provides guidance as to how the embedded network owner (the customer at the parent) allocates this to the customers within the embedded network.

This is a reasonable approach as the distributor in the general case does not provide any services (apart from meter provision and reading) to the child customers. However the AEMC recommendation envisages some industry modification of this if agreed with the consumer. SP AusNet would like it made clear that any other arrangements negotiated between the FRMPs at the site would also require the agreement of the distributor as this would involve a reasonably significant change to billing systems which currently bill at the parent NMI level.

11.4.3. **the NMI for the child meter(s) would be assigned by the Responsible Person for the child meter.**

The allocation of NMIs to connection points on embedded networks is an aspect of industry / AEMO market arrangements and processes which is far from clear. The CATS Procedure (Section 2.4 (u)) requires the distributor to provide NMIs to the retailer at the parent NMI for them to allocate to child customers on the network. On SP AusNet network and other networks, SP AusNet as the distributor allocate these NMIs and establish the connection point in the market when requested by the authorised retailer for child connection points. This appears to be consistent with the distributor's role to allocate NMIs for non-embedded network connection points, and ensures that where a retailer acquires a customer without knowledge of the

existence of an embedded network and requests a new connection from the distributor that the NMI allocation process is the same.

Neither of these arrangements aligns with the AEMC's suggested approach in the Advice for the child NMI retailer to allocate a NMI. This would appear to be a rather complicated approach with NMIs potentially being created by multiple retailers in the embedded network and would require a change of the CATS Procedure. It is unclear from the Draft Advice why AEMC considers that a change in approach is required.

12. Advice 3.3 Multi-element meters

Box 3.3: Draft recommendations

We recommend that, where a single metering installation has multiple measurement elements and assigned multiple NMIs (that is, a multi-element metering installation), there must only be a single Responsible Person for:

- all the components of the metering installation; and
- all the NMIs associated with each metering element.

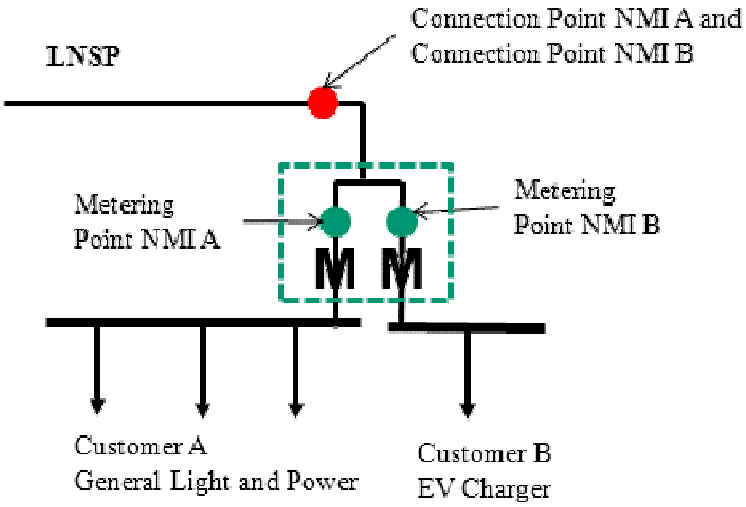
The NER (Section 7.2.4) already recognises the concept that where a metering installation is shared, with multiple measuring devices contribute to the measurement of energy through more than one NMI, there must be agreement between the involved Participants as to the single Responsible Person for the metering installation. This ensures that the metrology arrangements across all the metering elements and all the NMIs is compliant and co-ordinated. It ensures that there are no responsibility interfaces and that one party has the role of allocating and managing all associated service providers.

We also recommend allowing individual measurement elements within a single device to be regarded as separate metering installations. This would allow individual measurement elements to be:

- assigned to different FRMPs by the associated consumer(s); and
- assigned different NMIs by the Responsible Person.

However the market does not currently recognise the concept of measuring elements within a single meter being considered as separate *metering points*, associated with separate *connection points* and NMIs. Note within the concept in NER Section 7.2.4, if metering elements in a meter having different NMIs was to be adopted as a market model, the meter would be considered as a single metering installation.

As SP AusNet understands this recommendation the metrology model would be:



It is assessed that this model of two NMIs in the one meter is not readily translated into the concepts of NMIs, connection points and meters as recognised in current metrology practices, documents and systems.

Although further detailed consideration would need to be given, the facts that:

- the NMI and datastream aspects of the MSATS database are largely separate to the meter register aspects of the database, and
- the NMI datastream suffix already recognised the concept of elements within a meter,

probably means that a major restructure of the data stream notations would not be required.

However, the concept of customer, address, and NMI is likely to be firmly embedded in industry systems, both of retailers and distributors, and an extensive industry investigation and costing would be required to understand the financial impact and operational changes driven by an extensive take up of the model of two NMIs in a meter.

However the most significant driver of system and process change follows from the Draft Advice recommendation in Box 3.5, to allow each of the NMIs within the one meter to be "allocated" to different retailers / FRMPs. As discussed in Section 1 of this submission this is a significant change to the basis of current systems and processes and will involve a large financial impact. As also stated in Section 1 the Draft Advice provides no clear statement of the improved outcome of adopting this change.

SP AusNet makes the following comments with respect to details of this approach:

12.1. Victoria situation

The Draft Advice makes no real comment with respect to implementation aspects of the recommendations. Hence there is no consideration of the Victorian situation where by the end of 2013, and on-going after that date, all customers below 160MWh pa will have a meter which complies with the Victorian AMI Meter Functionality Specification compared with the broader national meter arrangements.

In Victoria the rollout approach, supported by the AER cost approvals, has been for two element meters (with controlling contactor) to be installed on customers currently with a controlled load type tariff (notably electric hot water). These tariffs are not available to new customers and hence current planning is that no further two element meters will be purchased after the rollout completes in 2013.

Hence for a customer on installing an EV charger to utilise a two element meter would require a removal of their rollout meter and the installation of a new meter. Meter change arrangements following the end of the NER derogation in Victoria are currently unclear but would need to be factored into any EV metering approach in Victoria.

12.2. NMI allocation

The Advice states in Box 3.3 Draft Recommendations that "……This would allow individual measurement elements to be …… assigned different NMIs by the Responsible Person." The actual NEM process is that the customer, currently generally through their retailer, would request a new connection and the LNSP as part of providing that service would allocate a new NMI and establish that NMI is MSATS.

Question 7 Multi-element meters

Do you agree that having one Responsible Person for multi-element meters is the efficient solution? Are there any other issues with multi-element meters that we should address?

SP AusNet agrees that multi-element meters do offer an approach to the requirement for separate metering of EV loads. However as SP AusNet has argued above, we would not consider this to be "the efficient solution". There are other options which the Draft Advice has not given rigorous consideration to, and there are potential costs of the multi-element meters approach, particularly if multiple retailers are assigned to the same meter, which need to be considered.

13. Advice 3.4 Metering in an embedded network

Box 3.4: Draft recommendations

We recommend that the arrangements for metering within an embedded network be included in the NER.
In particular, embedded networks should be brought into the metering and settlements frameworks in Chapter 7 and rule 3.15 of the NER by:

- defining connection points between the embedded network and the associated downstream consumers as connection points (and supply points) under the NER; and
- allowing these connection points (and supply points) to be settled in the NEM.

In Section 11 we made a number of arguments with respect to the concepts of embedded networks, metering points and supply points, and these are directly relevant to this Section of the Advice. Briefly the points made were:

- Metering in embedded networks is covered in the NEM through obligations in the Metrology Procedure.
- Connection points and NMIs are clearly associated with all loads in the market (refer below for discussion re non-market registered loads in embedded networks.
- For single customer embedded networks a number of the AER exemption framework requirements could be relaxed.

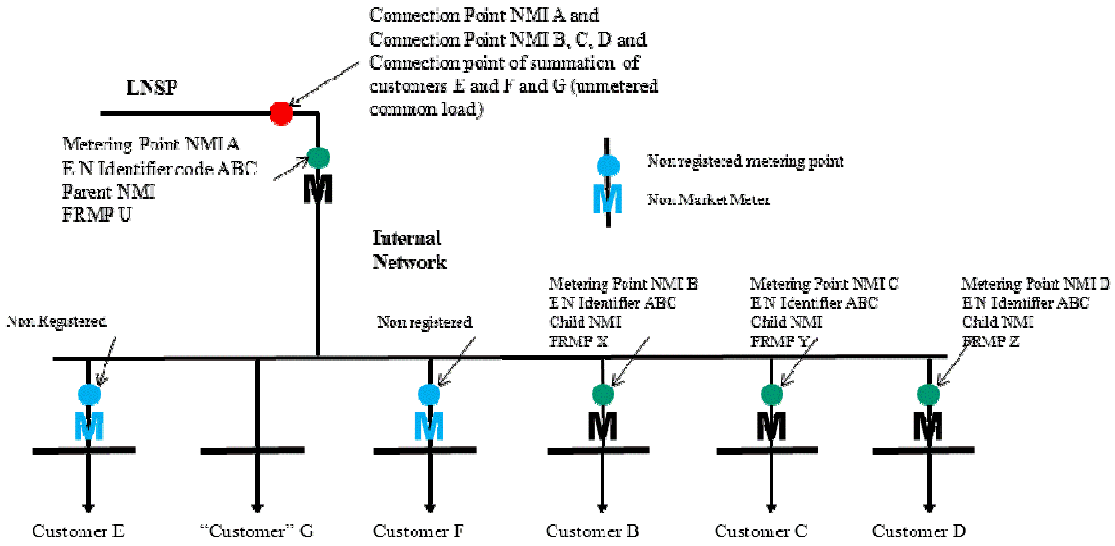
We make the following additional points here:

13.1. Connection point definition

The current definition of *connection point* in the NER is:

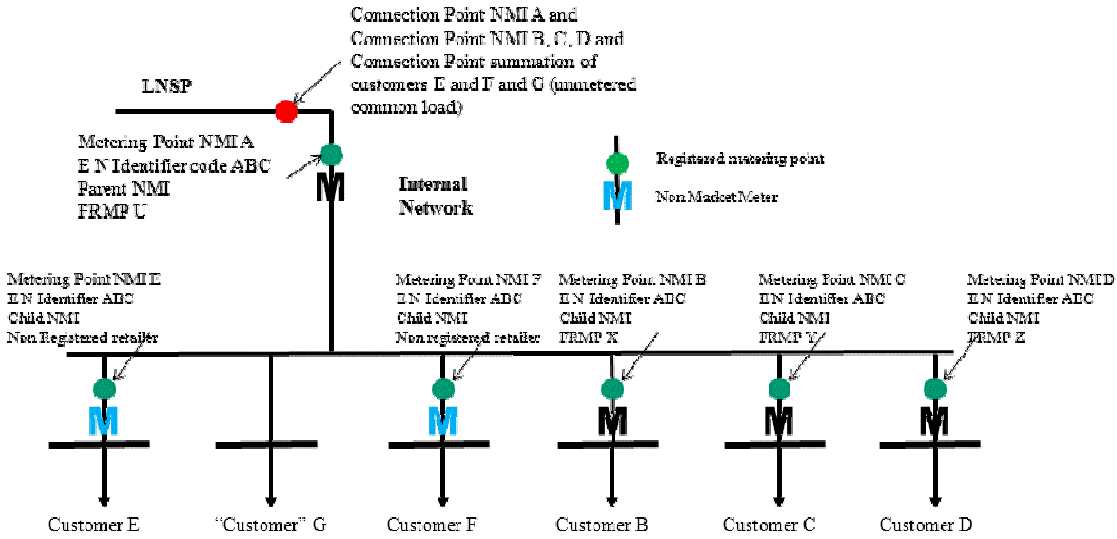
The agreed point of *supply* established between *Network Service Provider*(s) and another *Registered Participant*, *Non-Registered Customer* or *franchise customer*.

As detailed in our comments in Section 11 this definition does provide for a connection point for every customer within an embedded network that has a relationship with an authorised retailer and whose load is in the market. As is clear from the diagram in Section 11 and the diagram below the total load of customers in the embedded network without an authorised retailer is assigned to the parent NMI through the MSATS settlement differencing approach. These customers do not have individual NMIs assigned under this definition.



SP AusNet has argued in a number of regulatory reviews of embedded networks that better visibility of embedded networks should be a key outcome of any embedded network regulatory model, and have made the point that a key mechanism for gaining this visibility was for all customers in embedded networks to be allocated a NMI.

The aim would be to revise the embedded network model to more like that in the diagram below:



Although not entirely clear, this would appear to be the aim of the AEMC recommended definitional change:

"The agreed point of supply established between a network, which is connected to part of the National Grid, and another Registered Participant's network, a network exempt by the AER or by the Rules that would otherwise be required to be registered with AEMO, the circuits of a Non-Registered Customer or franchise customer."

SP AusNet considers that this wording does not achieve the desired outcome of requiring a NMI for all customers on an embedded network. The term "circuits of a Non-Registered Customer" is not specific enough to clearly indicate customers on an embedded network who are not customers of authorised retailers. Reference to authorised retailers and exempt onsellers would possibly make the intent clearer.

13.2. Operational arrangement for ENs

SP AusNet has consistently argued in a number of forums and consultations, including in the AER consultation leading to the AER NSP Exemption Guideline, that the operational arrangements for embedded networks and in particular the aspects which impact on the relationship of the embedded network to the supplying distributor and their network, needs to be developed and defined in the market regulatory structure.

Some of the key aspects of embedded networks operations which are poorly defined or not recognised in regulatory framework include:

- fault response: co-ordination of fault response by embedded network exempt service provider (responsible for fault response within the embedded network) with distributor fault call centre and crews
- new connections: interfacing contacts for establishment of NMIs for customers commencing on the network as second tier. Relationship establishment between the exempt network service provider and the DNSP with respect to metering changeover, customer switching by the exempt network service provider de-energisation and re-energisation, etc.
- CATS/MSATS updates: support of obligations for customer details to be recorded in MSATS including status of the connection. It is currently the DNSP's role to maintain the correct status of all market NMI is MSATS. This status must be

updated within 2 business days of a change of status. The obligation on the exempt network service provider to notify the DNSP of the status change must therefore within hours of the change to allow the DNSP to fulfil their MSATS obligation. Contact details and arrangements for this exchange of details must be part of the conditions of the exemption.

- recognition of life support customers: responsibilities for notification of the DNSP within hours of the establishment of a life support customer on the network. Contact details and arrangements for this exchange of details must be part of the conditions of the exemption.
- meter reading access: for meter reading, maintenance, testing by the DNSP of authorised retailer customers meters, etc.. Contact details and arrangements for this access must be part of the conditions of the exemption.
- switching arrangements: for access to meters short notification switching must be available. Contact details and arrangements for this access must be part of the conditions of the exemption.
- bad debt disconnection of the parent/ENO: processes for the handling of issues associated with disconnection of the parent NMI and impacts on the exempt retailers customers and any customers of authorised retailers notification of small scale generation with the network and arrangements for safety testing, etc
- smart meter services: arrangements for potential remote switching of customer by the local distributor at the request of an authorised retailer. Is this allowed? What of the costs of action on behalf of the exempt distributor?

A number of these aspects of embedded network operations will be more complicated if as a result of implementation of arrangements in accordance with the Draft Advice, all NMIs in embedded networks are required to be allocated NMIs not just those with authorised retailers.

Question 8 Metering in embedded networks

Do you agree that our recommendations address existing uncertainties with respect to metering in embedded networks? Please provide reasons.

SP AusNet does not accept that the uncertainties in embedded networks are with respect to metering, but rather are with respect to various other aspects of their operation as identified above. SP AusNet considers that these aspects of embedded networks need to be better regulated.

We support the AEMC recommendation to require NMIs for all customers on embedded networks, but consider that the proposed definitional change does not reflect this outcome.

14. Advice 3.5 Two or more financially responsible market participants at one connection point

Box 3.5:Draft recommendation

In situations where there are two (or more) FRMPs at one connection point, we recommend:

- where there is only one point of disconnection and a FRMP wants to disconnect the consumer, this FRMP can disconnect the total load at the connection point, including the load of other FRMPs;
- for multi element metering installations, we have specified ways to share the costs associated with the Responsible Person;
- access to the metering installation be managed by the Responsible Person;

- when a consumer changes one of its FRMPs, we have suggested ways of managing this process;
- assigning DUOS charges to FRMPs in a manner that is proportional to their impact on total DUOS;
- a process where a consumer or FRMP seeks to upgrade one of its metering installations; and
- ways for addressing situations where a consumer moves house or has a billing/metering query.

14.1. Multiple FRMPs system and process issues

If the SP AusNet recommendations are adopted and the current approach of having multiple "coincident" connection points is retained rather than introducing the concept of a supply point, then in most cases these current processes will apply as these already deal with multiple NMIs at a premise.

However the concept of multiple FRMPs within a single meter as proposed in Section 3.3 of the Draft Advice , would lead as noted in Section 12 of this submission to significant change to the basis of current systems and processes and will involve large financial impacts.

Market systems and processes currently are firmly based on a single NMI per meter and a single FRMP per NMI. Hence a B2B SO for the establishment of a single meter is on the basis of one meter; one NMI; one retailer relationship. Further other industry processes are going to be impacted by the need for increased notifications of actions and changes across multiple retailers. Section 3.5.2 of the Draft Advice touches on a number of these including disconnection, access issues, retailer churn, meter changes. Each one of these aspects of an installation change are likely to involve cross notification of retailers so that the two or more retailers at a premise are aware of the market and metrology arrangements at the premise.

The processes for splitting a meter and NMI and the establishment of the relationships between the retailers would all be new processes, with new rules, and new or significant modified transactions. These must be very rigorous as the establishment of these relationships impacts on the customer's billing and costs, and also on the market settlement aspects of the NMIs and the retailers' financial obligations in the market.

Further, industry systems are unlikely to have the flexibility to accommodate the requirements of these type of meter "splits". Depending on the internal structure of systems wholesale and fundamental changes may be required.

As discussed in Section 1 of this submission, the Draft Advice as currently drafted does not make a case for how these issues with multiple retailer meters are offset by the increased DSP benefits to customers.

14.2. Disconnection arrangements

The Draft Advice presents a number of options with respect to disconnection arrangements for premises with multiple retailers and only one point of disconnection. It must be noted that Distributors also have the right of disconnection for various reasons and, although scenarios where distributors may have grounds to only disconnect one NMI at a premise would be rare, these could arise (a possible scenario may be lack of access to one only of two metering installations).

The Draft Advice recognises that existing premises converted to a multiple NMI/retailer configuration would only have a single point of disconnection and further that mandating a separate disconnection point "may cause additional costs" (rather certainly will cause additional costs) which would be a barrier to the two retailer per premise approach.

SP AusNet considers that the concept of two electrical installations without separation of supply, including separate isolation points, may contravene the Victorian SIRs and before this arrangement could be accepted is likely to require consideration and redrafting by the distributors' SIRs committee.

As outlined in Section 14.1 of this submission the concept of two NMIs and two retailers with a single multiple element meter will drive a number of changes to industry processes and transactions and system changes and a key aspect of change will be how status changes are notified between the two or more retailers at such a premise.

14.3. RP Costs and meter change

The Draft Advice presents a number of options with respect to how the Responsible Person (RP) costs for multi-element meter multi-retailer premises would be allocated. As noted in Section 14.1 of this submission the NER does set some requirements for selection of RP in metering installations which are utilised by more than one NMI.

These NER requirements however are less than prescriptive as the envisaged instances are currently rare. Currently AEMO is nominated as the ultimate determining party if retailers/FRMPs cannot agree. This is not a viable approach for a mass market metrology arrangement.

The nominated RP must have a contractual arrangement with the service providers for the joint metering installation. Hence there are numerous complications if the FRMP who is nominated as the RP loses the customer who transfers to another FRMP. What happens to the service provider contracts? What are the new retailer's rights to decisions re metering? The Draft Advice raises a number of these issues but SP AusNet considers that there is a significant amount of industry work necessary before a definitive approach to these complex relationships is determined.

If the future direction of metering for EV charging or other DSP loads was to go down the path of multi-element meter multi-retailer premises then some more specific requirements and obligations would need to be established and these would likely need to be implemented through the industry B2B processes and transactions, again contributing to the costs of this market option as identified in Section 14.1 of this submission.

14.4. DUoS Charges

Distributors' tariff allocations are determined at a connection point level and their billing systems are fundamentally configured on this basis. If the approach recommended by SP AusNet in Section 10 of this submission is followed, then all NMIs will be at connection point level. Each NMI will be allocated a tariff and the bill based on this tariff will be assigned to the retailer.

There will be two DUoS charges for the premise and this is reasonable as the distributor's costs per connection point will largely not be impacted by a dual retailer site even if these retailers are sharing a meter. The distributor will be interfacing with a retailer for each NMI with potentially different service requirements, handling two meter reading data streams, and two network bills.

More complicated DUoS splitting arrangements as raised as options in the Draft Advice do not reflect the true distributor cost arrangements and would require complicated standing data and billing changes to provide the basis of the billing.

Again this reinforces the point that the complicated market and metrology arrangements proposed in the Advice have significant process and system change outcomes.

14.5. Meter upgrade, consumer relocation, EV removal, billing enquiries

Again all these aspects of dual retailer sites, and in particular dual retailer meters, need to be worked through in detail before any practical operational outcome can be established. The basis of some of the proposals in the Draft Advice dealing with this range of matters, raise challenges to current practice, including:

- The customer understanding of meter provision goes far beyond that normally expected of small customers. eg. understanding of meter exit fees, service provider compensation, etc.
- An assumption of distributor metering services being regulated in even contestable meter situations.
- Concept of FRMP or Responsible Person blocking meter upgrade based on commercial contract conditions

Question 9 Two (or more) FRMPs at a connection point

1. **Do you agree that our recommendations will enable two or more FRMPs to operate effectively at a connection point? Please provide reasons**

SP AusNet has recommended in Section 2 of this submission that market and metrology arrangements for support of EV charging loads be kept as simple as possible and in Section 10 suggest that there is no justified need for introducing the concept of *supply point* as the current approach of *connection point* supports all the aims of the Advice with a minimum of impacts to existing approaches and systems. The concept of two FRMPs therefore does not arise except in the case of the option which has some support in the Advice a 'two FRMPs per meter' concept. SP AusNet considers that if this option was to be supported, that significant further work is required to arrive at the necessary market and metrology changes to make this workable.

2. **In the event that one FRMP wishes to disconnect a consumer, do you agree that a FRMP should have the power to disconnect the consumer's total load, which includes the load from the other FRMP? Or do you think that each part of the load should be able to be disconnected independent of the other FRMP?**

SP AusNet considers that whilst there may not be metrology/safety issues with a single isolation point, there are retailer interface matters and current connection arrangement rules which will need to be given consideration.

15. Advice 4.1 Circumstances when EV charging constitutes a sale of electricity

Box 4.1: Draft recommendation

We consider that the supply of electricity for the purposes of EV charging would generally constitute a legal sale of electricity in the NEM under the NERL and in Western Australia under the *Electricity Supply Act 2004 (WA)*.
For bundled service providers, we recommend that the AER or the Economic Regulation Authority of Western Australia (ERA) determine whether the services offered constitute a legal sale of electricity. The AER or ERA should consider whether the sale of electricity is a primary or incidental part of the bundle of services provided.
We consider that EV battery swap services do not constitute the sale of electricity for the purposes of the NERL, and therefore the energy market arrangements do not apply to these services.

There are a large number of requirements and obligations associated with the sale of electricity. These are regulated through a wide range of market regulatory and metrology instruments which together establish arrangements for:

- the financial protection of customers including under hardship,
- the protection of the market,
- the safety of customers, and
- the operation of the wider electricity network.

All parties involved customers, electrical contractors, and industry participants have related appropriate controls which contribute to this overall regulatory regime.

Hence the advantage if the EV charging service is prescribed as a sale of electricity, is to preserve this complete regime, rather than risk that parts of the regime are inadequately covered. For example metrology arrangements a covered in multiple regulatory instruments which together ensure that the trading of electricity meets the requirements of the Trade Practices Act (TPA). Whilst all trade measurement must meet the TPA requirements it is through the details in the metrology documents that customers can be assured of accurate measurement of electricity consumption.

Refer also Section 4 of this submission which raises the related matter of a regulatory framework for third party providers.

Question 10 Sale of electricity and the bundled service provider

Do you consider the AER should be required to specify how it will determine whether a bundled service provider is selling a good or service that constitutes a legal sale of electricity, for example, through a guideline?

SP AusNet considers that to ensure the current electricity regulatory regime is maintained, the provision of electricity for EV charging should be determined to be the legal sale of electricity.

16. Advice 4.2 Consumer protection and retail licensing

Box 4.2: Draft recommendation

We consider that the current consumer protection framework is appropriate for EV consumers. However, we recommend that the AER review its retail exemptions framework to clarify the status of EV charging services at commercial EV charging stations where onselling occurs.

Question 11 EVs and retail exemptions framework

Do you agree that the AER should review its retail exemptions framework to clarify the status of EV charging at commercial EV charging stations where onselling occurs? Please provide reasons.

For the reasons outlined in Section 15 of this submission, EV charging needs to be carefully regulated with respect to safety and customer protection. However, we do agree that the concept of the EV owner/driver being a customer at the EV charging outlet, is inconsistent with the market model. The market connection point and market metering and settlement interface should be defined further upstream.

17. Advice 4.3 Network licensing

Box 4.3: Draft recommendation

We consider that the network licensing regime administered by the AER is sufficiently robust to cater for EVs charged over a distribution network or over an embedded network and are therefore not proposing any changes. We note that the AER has developed a network exemption for EV charging in embedded networks, which would cover commercial EV charging stations

The AER network exemption needs to be further reviewed to ensure that the metering, commercial and customer protection issues of the EV owner/driver are satisfactorily handled in the AER model.

18. Advice 4.4 Addressing the risk of EV service provider financial failure

Box 4.4:Draft recommendation

We consider that the current arrangements for addressing the risk of EV service provider financial failure are appropriate and therefore we are not proposing any changes. That is:

- If the bundled service provider is an authorised retailer, then the Retailer of Last Resort (ROLR) provisions would apply;
- If the bundled service provider is subject to a retail exemption, then RoLR does not apply, however, the AER may place conditions on the bundled service provider;
- if the bundled service provider is found by the AER not to provide services that constitute the legal sale of electricity, then the energy market regulatory arrangements do not apply and the risk of supplier failure become a general risk faced by EV consumers.

The AER Exemption Guideline does not provide a suitable model for embedded network party failure.

The Guideline uses a big stick approach ("take away exemption") as the basis of enforcement, but makes no practical suggestion as to how embedded network customers will retain supply if they have no service provider. The failure of the embedded network owner (the customer of the registered retailer at the parent NMI) will leave this retailer without a cash flow, but with a distributor network payment obligation. The retailer would have no commercial alternative but to "close" the embedded network.

This is not a suitable regulatory outcome for embedded networks that often consist of vulnerable customers, and not an option for customers reliant on EV charging as a basis of their livelihood or lifestyle.

19. Advice 6.2 Energy market arrangements for NGVs

Box 6.1: Draft Recommendation

We consider that no significant changes need to be made to the energy market arrangements to cater for the efficient uptake of NGVs and are therefore not proposing any changes at this time.

Question 13 NGVs

Do you agree that no significant changes need to be made to the energy market arrangements to facilitate the efficient uptake of NGVs? Please provide reasons.

Agree