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17 August 2020

Mrs. Kami Kaur
General Manager Networks
Australian Energy Regulator
Via email: VIC2021-26@aer.gov.au

Dear Mrs. Kaur,

Re: Supplementary Submission of AER Issues Paper - Victorian electricity determination 2021-2026: electricity tariff structures

Our submission dated 3 June 2020 (**Submission**) to the Australian Energy Regulator (AER) issues paper- Victorian electricity determination 2021-2026: electricity tariff structures (Issues Paper), presented key findings and issues from an independent analysis (Sapere Report), which we commissioned, into the Network Tariff Structure Statements (TSS) as proposed by the 5 Victorian Distributors.

We are writing this supplementary submission following two stakeholder engagement meetings held with Evie Networks in July and August and responding to issues raised by AER staff to be considered in the draft decision.

Following these discussions with the AER, however, and based on the State of the Energy Market Report, it appears the AER has yet to understand Evie's concerns with DNSP TSS designs and AER decisions on TSS proposals. Accordingly, the purpose of this letter is to attach supplemental material which provides additional detail to our original submission and sets out our concerns with TSS outcomes and the AER's review of TSS proposals, and wish to express our concern with the process which we experienced.

We are of the strong view that the issues raised by Evie with regards to the Victorian Tariff Structure Statements are of similar nature to the issues raised by the Irrigators in Queensland. We are seeking support to secure a considered response from the AER similar to the response provided by the AER to the irrigation industry in Queensland pricing determinations.

As noted previously to the AER by Evie and the EV Council on behalf of the EV public charging industry, the assignment of default Commercial and Industrial (C&I) demand tariffs to public EV fast charging sites by Distribution Network Service Providers (DNSPs) is a significant barrier to the acceleration of EV uptake in Australia and more specifically to the rollout of public charging networks. These sites are characterised as on-demand infrastructure with highly dynamic loadings despite low throughput, yet these load peaks also generally do not coincide with time of highest utilization of distribution networks. Assigned large customer energy tariffs are punitive when applied to non-coincident, low load factor use cases such as EV fast charging. Therefore, existing tariffs make EV charging costs prohibitive, hindering private investment in much needed publicly available fast charging infrastructure.

We believe this is very similar to the other industries that have developed over time such as the irrigation industry and where the AER considered and responded accordingly in the recent

Queensland pricing reviews.

We strongly believe based on the evidence and research provided to the AER that the existing tariff structures do not create incentives for efficient utilisation of EV charging infrastructure and associated DNSP network assets. These outcomes are contrary to the long-term interests of electricity consumers (the NEO), as well as the Network Pricing Objective (NPO), which is that distribution tariffs should reflect the efficient costs of providing those services to the retail customer. The Sapere Report suggests the methods used by networks to determine the portion of revenue to be recovered from the LRMC component of tariffs is flawed.

Further, Evie notes AER staff acknowledged the need for greater transparency by the DNSP's for their proposals regarding key aspects of tariff design and in particular the basis for setting tariff windows and differential tariff levels. From our discussions with the AER and our analysis of AER decisions, our assessment is that the AER does not directly verify whether DNSP tariff proposals or tariffs are cost reflective. Instead the AER relies on a theoretical review of LRMC methodologies and estimates of unit LRMC for different network elements on a nominal $/kVA/pa basis.[1]

We have set out the key issues raised by the AER during the stakeholder engagement meetings on tariff designs, Evie's views and the analysis and evidence in the supplemental Sapere Report.

1. AER VIEW THAT DNSP TARIFFS ARE 'SUBSIDY FREE'

The AER has suggested that, provided the revenue collected from all tariff classes is between standalone and avoidable cost, then tariffs are 'subsidy free'.[2] The AER State of the Energy Market report 2020 states that C&I tariffs are more cost reflective than tariffs for small customers (residential and small business). The AER has also stated that the Rules do not discuss the issue of revenue allocation between consumers within the same tariff class. 3

Evie does not agree that DNSP tariffs are subsidy free and notes the AER provides no evidence or analysis to support its conclusions. In its June submission, Evie submitted evidence there are substantial cross subsidies between and within tariff classes. Under current approved DNSP tariffs, customers with higher than typical exposure to various forms of DNSP LRMC tariff designs (such as peak demand, capacity or time of use tariffs) have been paying annual bills that substantially exceed the efficient costs of the DNSP supplied services they are receiving.

Our understanding is that the pricing principles do require that marginal costs are properly allocated within each tariff class, where economic (and subject to customer impacts for small customers). This implies, as a matter of logic, that total DNSP marginal costs must also be properly allocated between each tariff class.

Under the tariff assignment policies established by most DNSPs, EV fast charging networks are subject to Commercial and Industrial (C&I) tariffs. A lack of transparency in data provided by DNSPs in their Post Tax Revenue Model (PTRM) submissions makes it difficult to assess cross subsidisation between tariff classes. The Sapere analysis, utilising limited available data, strongly suggests C&I customers may be cross subsidising small customers.

This is because network congestion is known to be more likely driven by small customer demand profiles than C&I demand profiles. However, C&I tariff designs have the effect of allocating a substantially higher proportion of total DNSP marginal costs to C&I tariffs.

Many customers have been paying higher average bills without imposing higher than average costs on the DNSPs within the relevant revenue control period. Conversely, other customers have been paying lower bills and have not been contributing their share of the cost of DNSP services, within the

[1] See for example Section 18.6 of Attachment 18 (Tariff Structure Statement) to the Final Decision, Ergon Energy and Energex, Distribution Determination 2020 to 2025, June 2020.

[2] See page 21 in Attachment 18 of SA Power Networks Distribution Determination 2020 to 2025, October 2019, AER.

[3] Ibid.

relevant control period.

Inefficient DNSP price structures are reflected in retail price structures that end users experience. Indeed, they are likely to be amplified by retailer mark ups on network bills.

Cross subsidies and inefficient DNSP prices result in dead-weight losses to the economy. DNSP prices inefficiently suppress demand for infra-marginal capacity, where the marginal cost is close to zero. This effect is especially pronounced for high-power public fast charging loads that generally do not coincide with times of highest utilization of distribution networks. At the same time, DNSP prices remove any incentive for charging network operators to apply demand tariffs to EV end customers during periods of greatest network utilisation (i.e. peak power system demand periods).

The allocative inefficiency in existing DNSP prices contributes to dynamic inefficiency. These inefficiencies will frustrate the Government's carbon emissions objectives and its forthcoming National Electric Vehicle Strategy which recognises the role of fast charging infrastructure. DNSP TSS, so far approved by the AER, are clearly a regulatory barrier to the adoption of priority technologies identified in the Australian Government's Technology investment roadmap.

2. AER VIEWS ON METHODS FOR ESTIMATING LRMC

The AER has yet to set out why it has not challenged inflated DNSP estimates of LRMC, outside Queensland. In its June submission, Evie submitted Sapere evidence that LRMC is inflated across the NEM, including Victoria. The only exception is for Queensland, as discussed below. Widespread use of inflated LRMC estimates in tariff designs is leading to increases in cross subsidies between customers within tariff classes. Available data from approved network PTRM show very large discrepancies between LRMC, as a proportion of regulated costs, on the one hand, and the LRMC component of expected revenue from tariffs, on the other, for all five networks and across all major tariff classes. In other words, DNSP estimates of LRMC cannot be reconciled with approved marginal expenditure included in PTRM.

The Sapere Report calculates LRMC from DNSP's existing AER approved Post Tax Revenue Models (PTRM). This is inclusive of avoidable capital expenditure for replacement of existing assets. It incorporates all avoidable costs relating to the period to which the TSS applies. This is the only method consistent with the pricing principles. It avoids a series of errors in DNSP calculations of LRMC:

a) Inclusion of infra-marginal cost relating to existing capacity that was supplied before the commencement of the regulatory period to which the TSS applies, and which is therefore unavoidable within that regulatory period.

b) Inclusion of ultra-marginal cost, beyond the period to which the TSS relates and during which marginal capacity is supplied.

c) Inclusion of the cost of marginal capacity that is not provided during the regulatory period, to which the TSS applies, because it is recovered over the expected economic life of the assets supplying that capacity.

d) Inclusion of capital expenditure that is funded by capital contributions for new connections and hence not recoverable from direct control tariffs at all.

Regarding the final point, C&I customers are more likely to use dedicated connection assets (e.g. connected at the medium voltage network (11kV, 22kV) or the lower voltages of the sub-transmission network (33kV, 66kV)). Where this occurs, the asset capital expenditures are not standard control services and hence these costs are outside the regulated cost base and excluded from the LRMC component of total regulated revenues. Only operating costs for dedicated connection assets are recovered from standard control tariffs.

The AER also expressed views on the critical issue of LRMC and how this process was "a journey" and that DNSPs are only preparing their second TSS (ie, post the 2014 Cost Reflective Tariffs Rule Change). As this is fundamental to delivering cost-reflective tariffs and maximising the efficient use of network investments, we would request that the AER fully detail the arguments standing behind the points made on the LRMC in the context of the Sapere Report during our meeting. We also request advice as to whether the position adopted in our meeting about the DNSPs being on a journey and that they are now only dealing with their second TSS since the 2014 Rule Change is consistent with the position adopted by the AER in the AER's final decision in February, 2017 on SAPN's TSS in which it stated "networks should consider as part of their consultation for the 2019 and beyond tariff statement(s), approaches that would result in faster transitions to cost reflective pricing" (page 45).

3. AER STAFF SOUGHT CLARIFICATION ON 'ARBITRARY' DNSP SPECIFIC TARIFF ASSIGNMENT POLICIES

As previously highlighted to the AER, tariff assignment policies are inconsistent with the NER principles. There are significant inconsistencies between networks regarding tariff assignment policies for the candidate sites. The sites are assigned to large customer tariffs for four of the five Victorian DNSPs (Powercor, Citipower, Jemena and United Energy), even though the anticipated near-term volumetric consumption of these sites is well below the volumetric threshold for large customer assignment.

In assessing tariff assignment policies implemented via network tariff eligibility criteria, the AER must have regard to the tariff assignment principles set out in 6.18.4 of the NER. At present, for four of the five networks, tariff assignment is determined solely based on the connection criterion (6.18.4(a)(1)(ii)). For those networks, there appears to be no regard to the first criterion (6.18.4(a)(1)(i)) which is the nature and extent of usage by the relevant retail customers.
We note that four of the five Victorian DNSPs are only considering the nature of the customer's connection to the networks and ignore the nature and extent of the customer's usage.

Where connection assets are not funded by regulated (standard control) tariffs, but instead by customer capital contributions regulated separately as alternative control services, there is no clear basis for using 6.18.4(a)(1)(ii) as the sole criterion for tariff assignment. The AER should therefore consider developing guidance to networks requiring them to modify the existing network tariff assignment policies operating under 6.18.4 of the NER, where connection assets are not recovered from standard control tariffs. In this case 6.18.4(a)1(i) would influence tariff assignment, along with other relevant principles (with little or no weight applied to 6.18.4(a)(1)(ii)). This would result in EV fast charging sites being assigned to small business tariffs in place of C&I tariffs, until or unless annual demand volumes exceed the relevant small business volume thresholds for a given site.

4. AER STAFF REQUESTED EMPIRICAL DATA FOR ULTRA-FAST PUBLIC CHARGING SITE LOADS TO BETTER ASSESS THE MAGNITUDE AND COINCIDENCE WITH CRITICAL NETWORK PEAKS

Ultrafast DC public charging sites by their very nature require relatively high levels of site capacity (in support of the on-demand ultrafast charging service), compared to the relatively low levels of volumetric energy throughput that are forecast to arise even once the target levels of public EV charging site utilization have been achieved. Table 1 below provides some illustrative site attributes for Evie Networks – note that the sites are characterized by initially low levels of utilization, including actual peak demands initially far below the future-proofed site capacity.

Table 1: Indicative attributes for ultrafast EV public fast charging sites (Evie Networks)

Site Capacity[1]	Charging Heads	Near Term Site Utilisation[2]		Long Term Site Utilisation[3]	
		volume	peak demand	volume	peak demand
750-1000kVA	6 x 350kW	20-30MWh p.a.	>150kVA	>800MWh p.a.	Per site capacity limit, enforced by onsite digital load controller
400-500kVA	2 x 350kW	15-20MWh p.a.	>150kVA	>200MWh p.a.	

Notes

1 Specific site capacities are negotiated case-by-case with DNSPs based on network considerations at each location

2 Near term site utilisation attributes are indicative only based on empirical data from operational Evie Networks sites

3 Long term site utilisation attributes are indicative only; actual utilisation forecasts are proprietary to Evie Networks

However none of this means that ultrafast public charging loads are inherently "costly" for DNSPs given that the actual upstream network impact necessarily depends on the magnitude and coincidence of realized diversified site peak demand (not installed capacity) relative to existing network peaks and surplus network capacity. Especially in the near term, given the Australian EV market is still very much in its infancy, the forecast site utilization and diversified peak demands of public fast charging locations are naturally expected to be very low.

Nonetheless, the extremely high LRMC components in the Victorian C&I customer tariffs presume that C&I customers are triggering extremely large DNSP expenditures over time because of their load profiles. These high LRMC components are enshrined in the demand charge application methodologies (Table 2) for the Victorian DNSPs, which generally are quite blunt instruments as they generally presume very large demand impacts and network costs irrespective of the customer load profile and the timing of diversified demand peaks. The rolling peak demand tariffs for Powercor, Citipower, Jemena and United are blatantly so (also noting that United levies a summer peak demand penalty charge too). Even Ausnet's critical peak demand charge is problematic because the capacity component is levied on the full installed site capacity (even though this was already funded by customer upfront capital contribution) and irrespective of whether this capacity is actually utilized and irrespective of the coincidence of actual peak loads (and for ultrafast EV public charging sites the cost of this capacity component vastly outweighs the separate critical peak demand component that is also levied).

Table 2: Demand charge methodologies for default Victorian C&I customer tariffs

DNSP	Demand charge application methodology for default Victorian Large Customer Tariffs
Ausnet	Capacity charge is based on the nameplate rating of the transformer supplying the customer's installation (pro-rata if shared between customers). Annual demand charge is based on the average of the customer's maximum kVA recorded on the 5 nominated peak demand weekdays during the defined critical peak demand period. These days must be during December to March, between 2 pm to 6 pm AEST (or 3 pm to 7 pm AEDT) on the nominated days.
Powercor	12-month rolling maximum kVA demand over a 15-minute period
Citipower	12-month rolling maximum kVA demand over a 15-minute period
Jemena	Rolling maximum kVA demand over a 15-minute period
United	12-month rolling maximum kVA demand over a 15-minute period between 7am-7pm on workdays plus summer (Nov-Mar) monthly maximum kVA demand over a 15-minute period between 3pm-6pm on workdays

This same negative presumption is thus extrapolated to ultrafast DC public charging sites as well, but with more severe and prohibitive costs to end customers given the typically low utilization of ultrafast charging sites. For these LRMC-dominated tariffs to be truly cost reflective on a technical level, there are three necessary conditions that would need to be proven by the Victorian DNSPs to justify continued application of high LRMC components:

a) Diversified C&I customer loads (including public DC fast charging loads) would need to coincide with the precise season(s) and time(s) of day of the existing distribution network peak loadings.

b) The relevant sections of the distribution network serving C&I customers would need to be approaching the predefined limits of existing capacity that trigger marginal capacity expansion and associated DNSP forward capital expenditures over time, rather than additional C&I customer loads being able to be readily absorbed within the existing surplus network capacity (as is often the case);

c) The costs of marginal capacity expansion could not be recovered by any other means (i.e. upfront) and would necessarily need to be passed on to C&I customers via these LRMC-dominated tariffs instead.

4.1 Empirical Data Availability for Ultrafast EV Charging Sites

The AER has repeatedly asked for more empirical load profiles from operational ultrafast DC public charging sites to debate these arguments further, but unfortunately a statistically significant dataset is not yet available given the early state of the EV market and also the underdeveloped Australian ultrafast charging network, in particular:

a) The first global deployments of ultrafast (350kW) DC charging technologies only commenced from 2018 (in Europe) and the first Australian site deployments followed in 2019. At the time of writing Evie Networks has only commissioned 5 out of a planned 42 x ultrafast (350kW) highway sites and to-date these sites have operated at prematurely low levels of utilization (well below 1% on a time and energy-weighted basis). Evie's peer ultrafast charging networks are similarly at an immature stage.

b) This early stage of network deployment and prematurely low site utilization is preceded by the small number of EVs currently in Australia (<20,000) and recurring forecasts for subdued growth in our local EV market. Relative to the future-proofed 350kW capacity of the ultrafast charging stations being deployed, typical EV charge session rates are being observed at only ~50kW on average and diversified total site loads (with multiple 350kW chargers at each site) are rarely exceeding 100kVA over 30 minute intervals. The ultimate rated site capacities may not be realized in peak demand levels for many years to come (and potentially beyond the pending Victorian 2021-26 regulatory control period even).

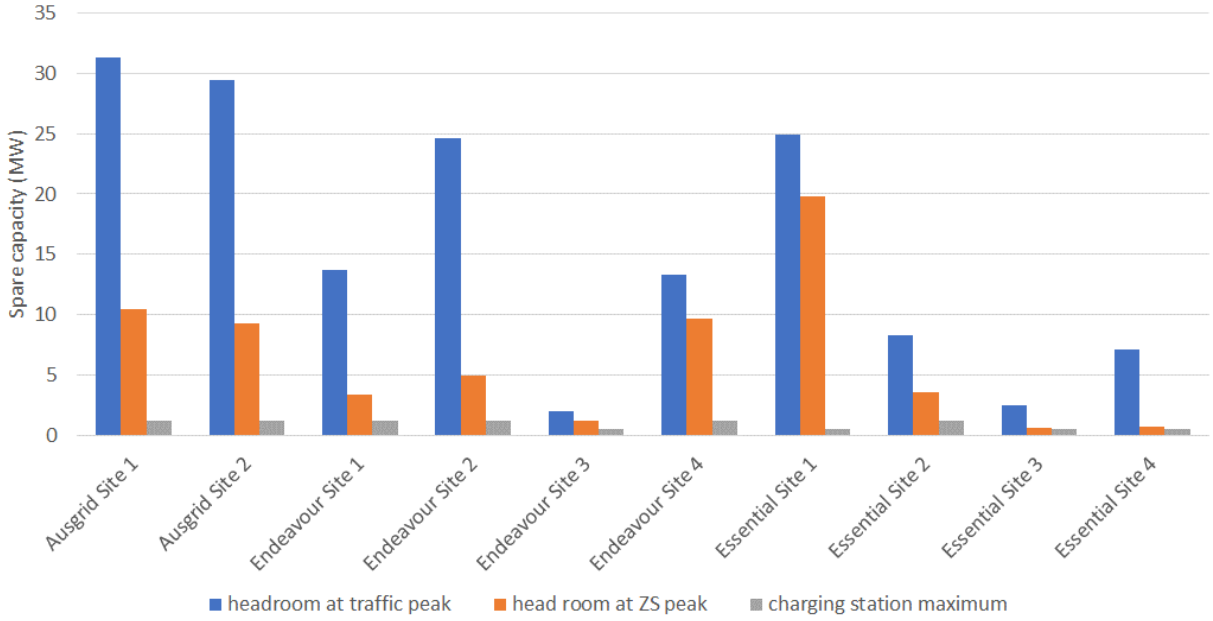
CSIRO routinely supports the energy network forecasting efforts by AEMO and others, yet in recent email correspondence with Evie Networks the CSIRO has acknowledged that suitable empirical data for public ultrafast charging networks is not yet available globally for this task. Thus, CSIRO has considered the use of empirical traffic flow data (for petroleum vehicles) as a proxy placeholder until the EV market grows further. These proxy methods are similarly being employed in the more mature EV markets overseas, pending greater empirical data availability. Victorian traffic flow interval data (for petroleum vehicles) was not available to support Evie Networks' Submission to the AER, but similar results for NSW were provided given the traffic data availability in that State. Furthermore, Evie Networks has taken the most conservative approach of not diversifying the ultrafast charging site loads given the inherent uncertainty at this early stage, but even in this conservative extreme the results are compelling.

4.2 Residual Capacity Analysis for Ultrafast EV Charging Sites (non-diversified, worst case, long term assumptions)

As previously provided to the AER in our Submission, (Figure 9, extracted from the Sapere Report), compares the capacity requirement of a set of 10 x NSW sites (under development by Evie Networks) with the headroom or spare capacity of the adjacent zone substations (ZS) that will

supply these EV charging sites once operational:

Victorian Submission Figure 9: NSW local network residual capacity (headroom) at maximum annual demand and traffic peak relative to site capacity for ten public ultra-fast EV charging sites under development by Evie Networks in NSW



a) The rated capacity (MW) of the ultrafast charging sites is shown in GREY – with the 10 sites having a cumulative installed capacity of 8MW and with a relatively uniform distribution across the State as evidenced by the allocation of sites across the 3 x DNSPs. Note that these rated site capacities may not actually be realized as measured site peak demands for many years to come given the forecast subdued growth rates in the local EV market. Also note that these installed site capacities will not necessarily contribute to upstream network peaks as it depends on the degree of coincidence, but Evie Networks have taken the most conservative (severe) estimates given the inherent uncertainty at this early stage.

b) The total firm capacity of the adjacent zone substations is 231MW across the 10 locations. The minimum headroom (MW) of the adjacent zone substations is shown in ORANGE (headroom at ZS peak) – based on the magnitude/timing of the existing network peaks as identified from 30min interval data. The cumulative minimum network headroom based on existing loads is 64MW across these 10 locations.

c) The greater headroom (MW) of the adjacent zone substations at the time of the existing traffic flow peak is shown in BLUE (headroom at traffic peak) – as a proxy metric for future EV site utilization, identified from 1-hour interval traffic data for existing petroleum vehicles at these NSW locations. The greater, cumulative network headroom at these times of peak traffic flow is 152MW across the 10 locations.

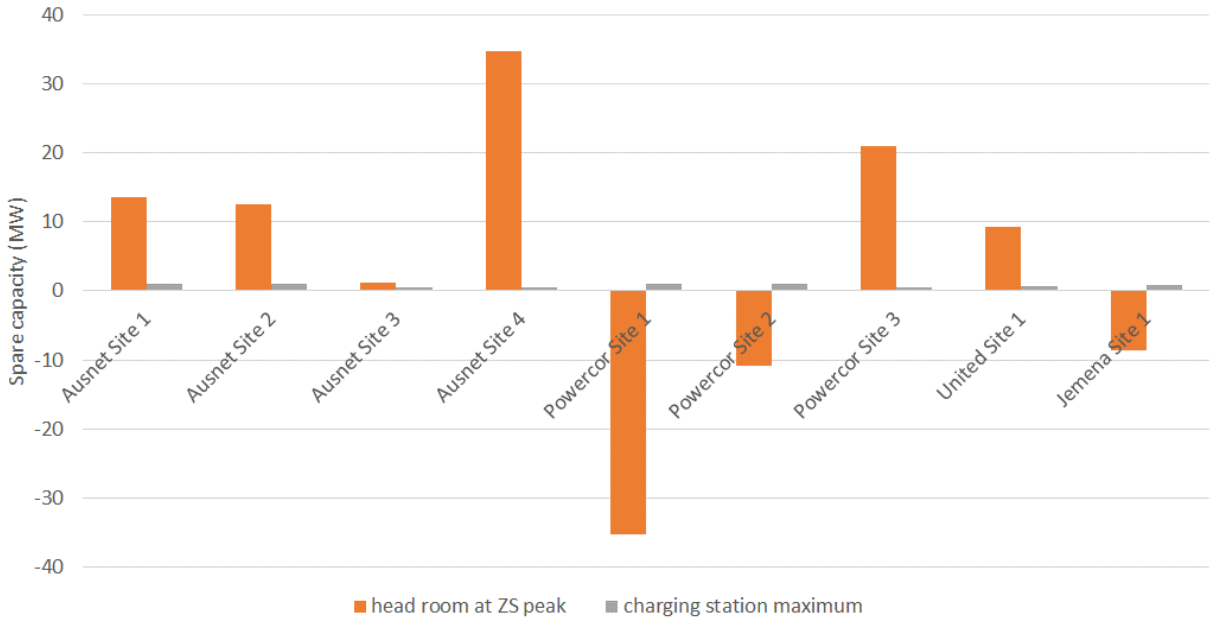
d) Under the most conservative scenario for future EV site demand growth, the ultrafast charging sites could only ever erode 8MW from the existing 64MW of headroom out of the total 230MW of firm capacity – thus only raising aggregate peak network loads from 72% to 76% in the most extreme case. But the probability suggests that this charging site peak demand growth would more likely occur at a time of vastly greater headroom (raising aggregate peak loads from only 34% to 38% at peak traffic).

e) Of these 10 x NSW locations analyzed above, there are only 2 sites where the existing distribution network peak exceeds 90% of the rated firm capacity. At these 2 locations it is possible that Evie Networks' site capacities could trigger an immediate requirement for upstream network augmentation, but if so these costs would immediately be recovered in addition to the routine capital contributions for DNSP connection works/assets that occur via the ASP contestability framework in NSW. Accordingly, the bulk of the augmentation

cost at these locations should not be recovered from the application of high LRMC related charges within standard control tariffs.[4]

Evie's Victorian site analysis (Figure 8 in our Submission) does not account for the timing of traffic peaks, given the lack of suitable Victorian traffic data in the public domain, but otherwise illustrates that the ultrafast EV charging sites will have a similarly immaterial impact on aggregate network demand and long run marginal cost:

Victorian Submission Figure 8: Forecast local network residual capacity (headroom in 2024) relative to site capacity for nine public ultra-fast EV charging sites under development by Evie Networks in Victoria



f) Across 9 x VIC sites under development, Evie Networks will install 7MW of aggregate capacity (in GREY).

g) Whereas the associated zone substations (ZS) locations have 661MW of aggregate installed capacity and only 37MW of aggregate headroom (in ORANGE) thus currently at 89% aggregate loading, which is high.

h) While there is clearly less residual network capacity across the Victorian locations on average, these locations are distinctly clustered into three separate groups:
   i. The majority (five sites) have substantial headroom even under the most extreme assumption of maximum, non-diversified demand arising at Evie Networks charging sites over the long term.
   ii. One site (Ausnet Site #3) is almost fully loaded based on the demand growth of other customers already connected at this location. While it still has enough headroom to accommodate the non-diversified (worst case) Evie Networks site load, an upstream augmentation charge will be levied and paid as an upfront capital contribution by Evie through the connection process.
   iii. Three sites are already forecast to be overloaded and upstream augmentation appears to already be required (subject to regulatory tests and timing). While it is debatable as to how and why these forecast overloads are already arising, it is quite apparent that Evie Networks future site loads on their own could not be blamed as the trigger for the augmentation. Nevertheless, a pro-rata upstream augmentation charge will be levied and paid as an upfront capital contribution by Evie Networks through the connection process.

[4] As discussed in our Submission and the Sapere Report, while we are satisfied that capital contributions are deducted from the total revenue requirement for standard control services, tariff-LRMC substantially exceeds LRMC. This implies that tariffs may not be cost-reflective, notwithstanding network rebates for capital contributions.

i) Overall, there would be no apparent justification for LRMC-dominated tariffs across these Victorian locations in a general sense. On an aggregate basis, the marginal 7MW capacity requested by Evie Networks is only ~1% of the installed firm capacity. The majority of locations have no obvious need for additional forward-looking expenditure to augment the upstream network, and the others would see the bulk of the augmentation cost recovered on a pro-rata basis through routine, upfront capex contribution.

Furthermore, while the above residual capacity analysis was deliberately conservative (non-diversified worst case over the long term), there is also significant anecdotal evidence to suggest that there is likely to be a high level of demand diversity between EV fast charging networks relative to periods of greatest utilization of the distribution network at the same locations:

k) Maximum electricity demand is typically temperature related (e.g. air-conditioning driven) during extreme seasonal weather events, whereas maximum charging station demand would coincide with periods of peak traffic flows, which are not temperature related.

l) The highest periods of light vehicle use, especially outside cities at highway locations (e.g. holiday traffic), and hence the periods of greatest potential demand for EV fast charging network services, can be expected to coincide with lower levels of electricity demand (i.e. vacation periods), not higher levels.

m) Evie Networks and its peers are continuing to collect empirical data for 350kW charging site loads with a view to forecasting the diversified network impacts in the longer term as the local EV market matures. However we must stress this is a task that will continue to occupy us for years yet to come, and the AER should not delay necessary tariff reforms (especially in Victoria) given that the available evidence is already compelling that C&I tariffs are not cost reflective and with exaggerated, prohibitive impacts on public fast charging in particular.

4.3 LRMC-Dominated Tariffs Cannot Be Justified for Ultrafast EV Charging Sites based on Available Evidence

With reference to the three necessary technical conditions outlined above for genuine cost-reflectivity, the existing C&I tariffs fail on all counts and thus these high-LRMC tariffs are not justifiable for public DC fast charging:

a) All available evidence suggests that diversified public DC fast charging loads are unlikely to coincide with the precise season(s) and time(s) of day of the existing distribution network peak(s).

b) The relevant sections of the distribution network serving C&I customers (including public DC fast charging locations) generally have ample headroom within which to accommodate the subdued EV fast charging site demand growth that is forecast will only eventuate over the longer term;

c) For the uncommon site locations that may require immediate upstream network augmentation (in addition to routine connection assets upgrades), these exceptional costs will immediately be recovered via upfront capital contributions and thus should not be recovered via LRMC-dominated tariffs as well.

Our submitted evidence proves that these necessary tariff cost-reflectivity conditions cannot be satisfied for ultrafast public DC fast charging loads (and underpins concerns about C&I tariffs more generally). In other words, while ultrafast DC charging sites are already acknowledged to have relatively high capacity with relatively low utilization, all available evidence suggests they are also forecast to have low diversified network demand over time and incur low LRMC as a result. The LRMC-dominant tariffs that are being levied are not justifiable.

We note that in our ongoing consultations with the AER (and DNSPs) there has not been any empirical evidence provided to the contrary, thus we request immediate recognition by the AER and urgent resolution of these concerns through the current Victorian pricing determinations.

5. AER STAFF ASKED EVIE TO PROPOSE NEAR TERM ACTIONS

Consistent with the National Electricity Objective, and to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of electric vehicle motorists, we believe it is important that our issues are addressed by the AER during the current pricing determinations. We proposed two key near term actions from the AER:

a) Reconsider the tariff assignment policies focusing on providing optionality to large customers; and

b) Direct the Victorian DNSPs to work with Evie and the public fast charging industry to develop cost reflective tariffs which may include curtailment options.

5.1 Tariff assignment policy to provide optionality

As previously highlighted to the AER, tariff assignment policies are inconsistent with the NER principles. There are significant inconsistencies between networks regarding tariff assignment policies for the candidate sites. The sites are assigned to large customer tariffs for four of the five Victorian DNSPs (Powercor, Citipower, Jemena and United Energy), even though the anticipated volumetric consumption of these sites is well below the volumetric threshold for large customer assignment. In assessing tariff assignment policies implemented via network tariff eligibility criteria, the AER must have regard to the tariff assignment principles set out in 6.18.4 of the NER. Rule 6.18.4 (a) (1) - DNSPs meet the Rule requirements, with specific reference to 2 key criteria:

a) the nature and extent of the customer's usage and

b) the nature of the customer's connection to the network

We note that four of the five Victorian DNSPs are only considering the nature of the customer's connection to the networks and ignore the nature and extent of the customer's usage.

Where connection assets are not funded by regulated (standard control) tariffs, but instead by customer capital contributions regulated separately as alternative control services, there is no clear basis for using 6.18.4(a)(1)(ii) as the sole criterion for tariff assignment. The AER should therefore consider developing guidance to networks requiring them to modify the existing network tariff assignment policies operating under 6.18.4 of the NER, where connection assets are not recovered from standard control tariffs. In this case 6.18.4(a)1(i) would influence tariff assignment, along with other relevant principles (with little or no weight applied to 6.18.4(a)(1)(ii)). This would result in EV fast charging sites being assigned to small business tariffs in place of C&I tariffs, until or unless annual demand volumes exceed the relevant small business volume thresholds for a given site.

5.2 Develop cost reflective tariffs which may include curtailment options.

As previously noted, the AER Issues Paper discussion on tariff structures is limited to residential and small business customers. There is no reference to tariff structures or reform relating to Commercial and Industrial (C&I) tariffs (which are typically the default tariffs applied to public EV fast charging sites). While the AER proposes a move away from demand or capacity tariffs for residential and small business users, toward ToU tariffs, it does not discuss any implications for C&I tariffs. This may suggest there is an assumption held by the network providers, and not challenged by the AER, that existing C&I tariffs are already consistent with the relevant rules and do not require reform to ensure alignment with the relevant National Electricity Rules (NER). And, as also noted above, the current approved C&I tariff structures do not appear to be cost reflective and, therefore, are not consistent

with the NEL.

Evie Networks has been engaging with the all the DNSPs and apart from Essential Energy and Energy Queensland, DNSPs have refused to engage in one-on-one discussions with Evie around appropriate tariff design to balance considerations of all stakeholders. While Evie has expressed a preference for volumetric TOU, which coincidentally already exists in all DNSP's TSS's, we are also open to other options that take into consideration the DNSPs views including curtailment options to address any significant peak and related concerns by the DNSPs.

6 NO VERIFICATION BY THE AER OF WHETHER TARIFFS ARE COST REFLECTIVE

From our discussions with the AER and our analysis of AER decisions, our assessment is that the AER does not directly verify whether DNSP tariff proposals or tariffs are cost reflective. Instead the AER relies on a theoretical review of LRMC methodologies and estimates of unit LRMC for different network elements on a nominal $/kVA/pa basis.[5]

In a recent Draft Decision, the AER notes that the LRMC methodology should refer to existing spare capacity and that the LRMC for the 2020-25 period could be …'close to zero in large parts of the network – depending on the calculation method.'[6] The AER suggests there is a high level of uncertainty over LRMC given rapid technological developments and suggests transitioning LRMC-based charging parameters to a cost-reflectivity target while there is spare capacity in Energex's network for the foreseeable future.

The AER decided to reject the proposed 2020-25 TSS for Ergon and Energex.[7] This decision included two significant developments. One was an acknowledgment that the method for calculating unit LRMC must consider existing spare capacity compared to future demand growth and the time taken to utilise this capacity, hence deferring expenditure and reducing unit LRMC. The second was a requirement for increased transparency between the identification of LRMC for each customer class and the application of that LRMC in Tariff-LRMC components.

As we mentioned earlier, within each revenue control period forecast LRMC as a proportion of total forecast regulated expenditure is verifiable from the PTRM. Verifying whether T-LRMC corresponds to LRMC requires DNSPs to provide data alongside their PTRMs or TSS showing forecast revenues and volumes for the various tariff components for each tariff class.

The AER requires this data for those DNSPs that are subject to weighted average price cap regulation, as set out in the PTRM Guideline, but not for those DNSPs that are subject to revenue cap regulation.[8] The Victorian DNSPs have now completed their transition to revenue cap regulation and hence are no longer providing this data.
The analysis suggests the methods used by networks to determine the portion of revenue to be recovered from the LRMC component of tariffs is flawed. This may be related to expectations that LRMC is a very substantial proportion of the total cost of supplying network services.

For example, in a 2018 draft decision, the AER suggested that an increase in the LRMC component of residential tariffs for Endeavour, from 15 per cent (2019) to 17 per cent (2024), reflected more cost-reflective pricing. [9] PTRM data for Endeavour for the same period indicate that LRMC represents just seven percent of its total regulated costs for the period to 2018. This suggests that increasing the LRMC component of tariffs would decrease rather than increase the extent Endeavour's tariffs are based on LRMC.

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[5] See for example Section 18.6 of Attachment 18 (Tariff Structure Statement) to the Final Decision, Ergon Energy and Energex, Distribution Determination 2020 to 2025, June 2020.
[6] Ibid. page 18.
[7] AER, Attachment 18 – Tariff structure statement; Draft decision - Ergon Energy distribution determination 2020-25.
https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/ergon-energy-determination-2020-25/draft-decision
[8] See page 29 of the AER's final decision, Amendment, Electricity distribution network service providers Post-tax revenue model handbook, April 2019.
[9] See figure 18.3 and discussion on page 49 of *Australian Energy Regulator: Attachment 18 – Tariff structure statement | Draft decision - Endeavour Energy distribution determination 2019–24.*

7 CALL TO ACTION BASED ON PRECEDENT

Consistent with the National Electricity Objective, and to promote efficient investment in, and efficient operation and use of, electricity services for the long-term interests of electric vehicle motorists, it is important that this issue is addressed by the AER during the current pricing determinations. We propose the below actions from the AER similar to the Decisions the AER made to support the irrigation industry in Queensland:

a) Reject the proposed Victorian DNSP TSS's;

b) Direct the 4 out 5 DNSPs to apply consumption-based policy assignment criteria that would allow more optionality; and

c) Direct all VIC DNSPs to work with the EV charging industry to develop and trial a cost reflective tariff.

We believe these steps are necessary for the DNSPs and EV Network operators to inform the tariff designs and should be in place by 1 July 2021.

1- **Reject the proposed Victorian DNSP TSS's:** Evie is seeking support from the AER similar to the Decision made for the irrigation industry in Queensland to reject the TSS based on precedent in QLD and direct DNSPs to work with Evie to develop cost reflective tariff structures that can be trialed, noting that the AER rejected Ergon's TSS on a similar basis: *"Our draft decision is to not approve Ergon Energy's proposed tariff structure statement, as we are not satisfied that it complies with the distribution pricing principles in the Rules. …..we consider that some elements of the tariff structure statement require amendment and further detail"; ERGON: Attachment 18 - Tariff structure statement, Page 18-7.*
AND
the Queensland distributors must demonstrate in their tariff structure statements how this proposal satisfies the long run marginal cost principle and contributes to the efficient allocation of residual costs"; ERGON: Attachment 18 - Tariff structure statement, Page 18-44.

2- **Direct the 4 out 5 DNSPs to apply consumption-based policy assignment criteria that would allow more optionality:** Evie is recommending reconsideration and relaxation of tariff assignment policies focusing on providing optionality to customers noting that the AER directed the Queensland Distribution Network on a similar basis as quoted below:

"A distributor's tariff assignment policy are the rules the distributor follows to assign network tariffs to customers. We regulate distributors' tariff assignment policies when we approve tariff structure statements, which must contain such policies". ERGON: Attachment 18 - Tariff structure statement, Page 18-92.

"Provide more detailed information and justification of the proposed eligibility criteria for assigning and re-assigning customers to these more bespoke network tariffs"; emphasis added. ERGON: Attachment 18 - Tariff structure statement, Page 18-16. And when elaborating on this point concerning the individually calculated tariff class, it stated: *"To comply with the distribution pricing principles in the Rules we require more clarity on this aspect of the tariff class proposal"; ERGON: Attachment 18 - Tariff structure statement, Page 18-24.*

The above position was re-stated in the SAPN TSS draft decision:
"A distributor's tariff assignment policy are the rules the distributor follows to assign network tariffs to customers. We regulate distributors' tariff assignment policies when we approve tariff structure statements, which must contain such policies"; emphasis added. SAPN: Attachment 18 - Tariff structure statement (but 2nd section with new numbering), Page 18-14.

3- **Direct all Victorian DNSPs to work with the EV charging industry to develop and test alternative cost reflective tariff structures for fast and ultra-fast public charging network sites in line with the AER's comments in its Issues Paper**. This recommendation is consistent with the approach taken in Queensland by the AER for the irrigation industry. We believe these steps are necessary for the DNSPs and electric vehicle network operators to inform the tariff designs and should be in place by 1 July 2021. This is due to the fact that EV take up is predicted to be low over the next five years and therefore presents an opportunity to test alternative cost reflective tariff options without any implications on the Grid.

"Work with stakeholders to undertake a capacity tariff trial in the 2020-25 regulatory control period. Use the learnings and empirical evidence from this trial to design a new capacity tariff proposal for introduction in the 2025-30 regulatory control period." ERGON: Attachment 18 - Tariff structure statement, Page 18-15.

We are raising substantial matters and would appreciate the AER's consideration of these important issues in the Draft Decision similar to that in Queensland. Please contact Stephanie Bashir, Head of Policy at [redacted], or mobile [redacted] for clarification on any aspects of our submission.

Yours Sincerely,

[redacted]

Christopher Mills
CEO
Evie Networks