# 2021-2026 Victorian Electricity Distribution Price Reset

Summary of engagement with Victorian Community Organisations

May 2020

# 1 Introduction

The AER conducted the 2020 Public Forum as an online event, with presentations posted to the AER's website rather than delivered live. Questions were submitted via email. Answers from distributors are also posted on the AER's website.

# 2 Questions submitted to Victorian distributors through the online Public Forum

## VPN Networks

1. In point 5.2.2 of the Solar Enablement business case, you explained that the DVMS (dynamic voltage management system) would allow a greater amount of solar PV to be connected before experiencing constraints. How much does dynamic voltage control increase the PV capacity of a line? If constraints are assumed to occur at 30% penetration normally, at what penetration would they occur if voltage control was implemented (if that is a simplification – are you able to express the extent of improvement in other terms?) Do you have a sense of how the chart below would be impacted for each distributor by rolling out DVMS and dynamic controls, without the augmentation such as transformer and LV asset replacement needed to allow PV to be exported to the HV network?



Figure 10    Solar constraints by zone substation (percentage of daylight hours)
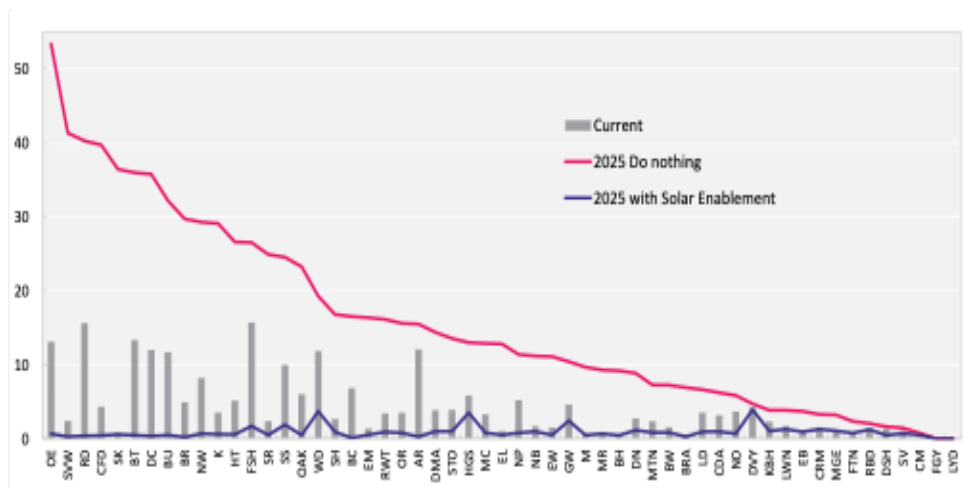
2. A large cost item in the DER plan is the replacement of transformers, and sometimes other LV assets.

   Replacing transformers appears to differ from the augmentation proposed by Ausnet Services, who are proposing to replace old type ZSS and line regulator VRRs with 2-way models, as well as LV reconductor work and split circuits.

   Why have the VPN networks determined that transformer replacement is required, rather than VRR replacement?

Are these transformers being replaced to accommodate a larger (reverse) peak flow, or are they being replaced for specific functionality reasons (Eg 2-way flow)?

3. As it's presented, Ausnet's DENOP system appears set up in order to communicate with an aggregator or management system etc, while the VPN Digital Networks program seems to interface directly with consumers (interface with IOT devices, DER control etc.)

   Is there a chance that the proposals from the distributors result in differences for the way customers or aggregators interact with the distribution network?

   How do you understand the differences in the functionality between the two proposed programs?

4. Do you expect solar exports to the HV network to lead to constraints on the HV network? How will this be managed?

5. How many noise complaints from the public have you had in relation to the ZSSs where noise related repex is proposed?

## Ausnet

1. The solar enablement augmentation works listed include line regulators, LV reconductor and LV split circuit, as well as old-type VRR replacement. Is the purpose of the LV reconductor work to replace these with higher-capacity lines – and does this imply that the exported peak generation will be greater than the peak load at these places in the network?

2. The augmentation elements of the solar enablement program include augmentation relating to the DENOP system (HV and LV.) What physical infrastructure or equipment does this relate to? Is this eg. Dynamic switching and/or dynamic voltage tapping?

3. As it's presented, the DENOP system appears set up in order to communicate with an aggregator or management system etc, while the VPN system seems to interface directly with consumers (interface with IOT devices, DER control etc.)

   Is there a chance that the proposals from the distributors result in differences for the way customers or aggregators interact with the distribution network?

4. Does the DENOP system allow the same functionality that is listed for the VPN digital networks strategy – specifically in relation to:

   - Dynamic voltage management

   - Dynamic phase balancing

- Dynamic export constraint

- LV model and Realtime LV power flow analysis

- IOT platform for network sensors and customer sensors

How do you understand the differences in functionality between the system proposed by Ausnet Services and the system proposed by VPN networks.

5. The chart below suggests that more than half of the ZSSs will be exporting generated load to the HV network by 2023. This develops very rapidly over the following 5 years so that almost all ZSSs will be exporting to the HV networks at minimum constraint periods.

   Much of this export can be expected to occur at the same time.

   Will this cause constraint on the HV network? How will this be managed?
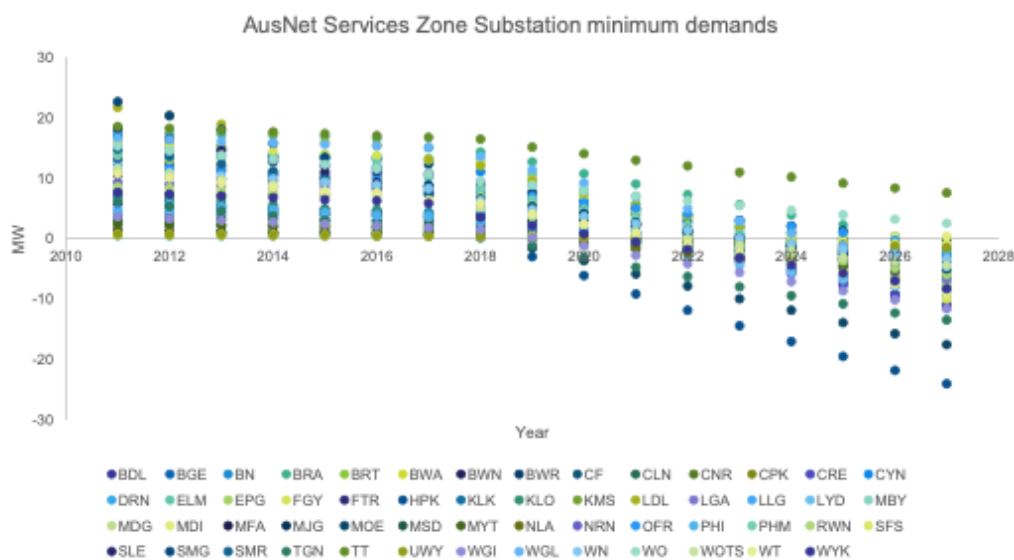


Figure 3 – Estimated power flows at ZSS based on the pre Solar Homes Package Program (base forecast)

## Jemena

1. A large cost item in the DER plan is the replacement of transformers, and sometimes other LV assets.

   Replacing transformers appears to differ from the augmentation proposed by Ausnet Services, who are proposing to replace old type ZSS and line regulator VRRs with 2-way models, as well as LV reconductor work and split circuits.

   Why has Jemena determined that transformer replacement is required, rather than VRR replacement?

   Are these transformers being replaced to accommodate a larger (reverse) peak flow, or are they being replaced for specific functionality reasons (Eg 2-way flow)?

2. Do you expect solar exports to the HV network to lead to constraints on the HV network? How will this be managed?