Regulatory settings for lines companies

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Introduction

This report canvasses in considered detail a wide range of important issues. The Authority should be congratulated for preparing such a comprehensive report.

Section 4: Data

Questions 1-30

The data section focuses on the ICP level. We believe that the ICP meter will become less relevant over time as management and control extends beyond the ICP and down the particular appliance level. This point does not appear well recognised in the issues paper.

solarZero collects around 50 million data points per day across some 10,000 systems. We assume that this data is of interest to the electricity industry given the general axiom that good data improves decisions. To date we have found that the electricity generally does have the experience in handling the quantity of data we produce. Our systems can provide much greater visibility of the network than lines companies currently have but we are not clear on how the provide the information to lines companies and how they can ingest that data and/or what visibility tools would be useful. We suggest there should be some funded pilots to look at how the kind of data our systems collect can be turned into information that other actors (including the Authority) would find useful.

Our experience is that many in the industry do not have significant depth in data management. For example, solarZero is asked to provide data to other players int the industry via spreadsheets, yet the volume of data well exceeds the capacity of spreadsheets.

The whole industry needs to become more data savvy. The question that the Authority needs to explore with the industry is how to incentivise industry to lift its data capability.

The consultation paper asks what is “real time data”. “Real time-enough” data could be 5 minutes, 10 seconds or milli-seconds depending on the situation. A system operator, for example, will say that 2 seconds is a life time. Context is very important for data. What is “real time” is answered by what is real time-enough for the particular situation.

Section 5: Market settings for equal access

Non network solutions are new bit the technology is here now, ready and proven. Staff in lines companies and consultants do not have familiarity with non-network solutions. The questions in this section of the document are secondary questions. The primary question is how to accelerate the industry up the learning curve quicker than it would otherwise go? Once we start to see lines companies giving serious consideration to non-network solutions, the questions in the document become relevant.

We suggest the Authority looks overseas towards the UK to identify ways to help move the industry up the learning curve more quickly. Also, the Authority should discuss with lines companies pioneering NNS in NZ to understand the challenges and how they overcame these.

Workshops, sharing experience and education will be important as will measures for lines companies.

Apart from the obvious measure of the number of non-network solutions deployed, a key measure on lines companies should be the capacity utilisation of the network. We suggest the following measures in relation to capacity utilisation:

- The difference between peak demand, minimum demand and average demand in the network, at the GXP, zone substation and feeder levels. The data could be aggregated (e.g. box and whisker diagram) and tracked over time. This would show how much spare capacity the network has.
- Another measure is the amount of unutilised capacity in MWh. Again this would be at the GXP, zone substation, feeder levels. By unutilised capacity, we mean the area under peak demand. This could be tracked over time to see if it is increasing or decreasing. Lines companies could be rewarded (via the ComCom process) for reducing the amount of unutilised capacity.

Graph showing unutilised capacity at a GXP level – the black ovals. At the GXP level the area under maximum could be calculated (via algorithms) thus developing an indicator of performance of the capital efficiency of the network

Q31: Because NWS are still new, we would like to see effort by the EA and other agencies to help move the industry up the learning curve more quickly than would otherwise be the case. We support all three options. Education/workshops etc is important. Funded trials would be useful. Learning is expensive and helping to cover some of the costs would be helpful. Stronger incentives on lines companies to consider NWS would also be helpful.

Q32: We prefer options 1-3. Education and sharing learnings (option 1) is important. We are a strong supporter of MTR. Standing offers (option 3) is worth exploring in detail and piloting.

Q33: To date, with the exception of one or two lines companies, we have not seen lines companies seeking to enable companies they own to provide non-network solutions. It is an area that does need to be watched.

Q34: We suggest option 1.

Section 6: Capability and Capacity

This section focuses on workforce age, ability to recruit and the like. We agree that as economies electrify there will be global competition for talent, particularly in the distributed energy space which is likely to be a rapidly growing part of the industry globally.

We support greater collaboration and sharing across lines companies. The EA should work with other key agencies, such as the Electrical Engineers Association, to run workshops, seminars to help build industry capability and share experience. In addition our view is that bringing overseas experts is important also.

Q35: We would not suggest that the EA provides guidance on collaboration to distributors. We suggest the EA plays a stronger leadership role and actually helps lead workshops, seminars, bringing overseas experts etc.

Section 7: Operating agreements for flexibility services

Q37-39: We agree that the EA maintains a watching brief on this area.

Section 8: DER standards

Questions 40-50, relating to review of Part 6.

Should Part 6 of the Code be reviewed? Our experience at the residential and commercial scale (kW to tens of kW) is that Part 6 works fairly well. We do find differences between lines companies. These differences are unlikely to be addressed by changes to the Code and are more related to training, education and standardisation. Code changes are laborious for both the Authority and the industry. There are higher priorities to focus on than review of Part 6.

Standardisation would be most useful, for example, the same information in the same format in the same part of a form. Differences in lines company forms and approaches reduce efficiency. As above we do not suggest that a standardised form is part of the Code. The Authority may well have a role in bring the various parts of the industry together to design a standard form that is used by all lines companies. Ideally people involved in making applications and processing them are involved in the development of a more standardised approach.

Q51: Should the AS/NZ 4777.2:2020 Standard be mandated for inverters in New Zealand?

Our experience with standards and 4777 in particular has been unsatisfactory. During the 4777.2:2020 process the solar industry was coerced into agreeing to certain provisions and abstained from key votes on parts of the standard. The Electricity Authority then added a reference to 4777.2:2020 into the Code as a non-controversial amendment. Staff at the Authority unwittingly

misled the Authority Board as a consequence of the poor process that Standards New Zealand ran. We and the wider industry do not want to see a repeat of this process.

To avoid being in the situation where Authority staff mislead their board, we suggest that the Authority needs to pay close attention to standards process. Authority staff need to assure themselves that the standards has been developed via a satisfactory process. As stated above that is not the case with 4777.2: 2020.

Question 51 is moot. At our behest Standards New Zealand is re-running the process for 4777.2:2020. Until the industry can regain trust in the standards process, no standard should be incorporated into the Code.

Smart product standards

There is no question related to this section. In our view international approaches and standards are likely to be developed. The technology and software settings will be loaded into the various devices as they are with inverters at the moment. Each jurisdiction will have the ability to change the settings, as happens with inverters.

We do see merit in ensuring that devices can communicate. Having said that, wifi plugs are cheap and readily available and can provide the necessary communication capability. We suggest that this is an area that the industry and regulatory agencies maintain a watching brief on paying particular attention to international developments.