



24 May 2013

Our Reference: UE: 02.11.01.01

Mr Slavko Jovanoski
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Electronic Lodgement – ERC0156

Dear Slavko

RE: Proposal to Publish Historical Electricity Zone Substation Data

United Energy (UE) appreciates the opportunity to respond to the AEMC in the Consultation paper titled 'Publication of zone substation data.

UE have provided a response to each of the questions in the Attachment.

UE does not doubt the concern and need for more detailed data in the market as demand aggregation and new marketing opportunities need to evolve. However whilst UE could provide a data set, UE query whether this operational data would be fit for the purposes specified by the rule proponent. In addition UE note that the data and reports are already made available with 5 years of historic demand by zone substation and are not being accessed. This would suggest that increasing the data obligations on UE may not result in a benefit for consumers.

UE also note that the new distribution annual planning reports (DAPR) and the proposal to provide connection point demand data will serve to increase data availability, hence this additional proposal may not add much incremental benefit. UE is conscious of energy affordability issues, further obligations need to be well justified with a net benefit to consumers.

The rule proponent suggests that the data would be used to determine demand patterns for different customer categories. If this rule change proceeded, UE would need to standardise the data resolution from different resolutions within its SCADA system to 30 minute data and would also need to derive load from instantaneous power or voltage data rather than 30 minute averages. UE is concerned that the operational zone substation data includes losses, theft, unmetered supplies, network switching, device or telemetry failures, network events, bad/erroneous data etc, and is therefore not billing quality metered data. UE query that this operational SCADA data will be meaningful data for the rule proponent and hence query the value of providing it for the purposes specified, particularly as correct interpretation of the data requires detailed intricate knowledge of UE's distribution network operations. Furthermore UE queries whether the data could be contained within a spreadsheet (or even published on a website) given the enormous volumes of data available.



UE recommend that the exact data requirements are better specified before any ongoing rule obligations are considered. UE would like to be confident that the data would be meaningful from the start and that the requirements and caveats on the data are well understood prior to a rule change.

Should you have any further questions on this response, please do not hesitate to contact me on (03) 8846 9856.

Yours sincerely

Verity Watson

Manager Regulatory Strategy

Attachment

Data Availability and Access

UE has 46 zone substations plus another zone substation supplied within an SPI Powernet terminal station.

Field devices often measure instantaneous power or volts rather than consumption. The volts/instantaneous power readings can be used to derive an approximate consumption data. The consumption or metering data derived in this manner or collected from field devices is not billing quality data.

The data collected is SCADA data and will have quality issues when compared to billing data:

- gaps or missing data where a device may have failed or been off line for a short or extended time period;
- telemetry failures which results in data not being collected;
- errors with the data indicating some fault or network event; and
- variations in the data collected as the electrical network is switched around leading to humps/hollows in the data stream.

Data has been collected over the last 10 years although has the data characteristics mentioned above. In addition the instantaneous data collected could be variable eg 1, 5, 10, 15 or 30 minute resolution or stored by exception. UE does not have 30 minute metered consumption data going back 10 years as envisaged in the rule change proposal.

Even if there were agreement that all data would only be presented in 30 minute resolution which would require substantial work, there would still be the data issues noted above.

As the monitoring of the network is improved over time, UE will have more capability and switching diversity. Improved levels of data resulting from the Victorian AMI program will also mean that improvements will be made in transformer load management and switching so the transformer life and network utilisation are increased. The rights of the distributors to continue to switch and operate the network must not be impeded in any way by this rule change proposal.

There may be consistency issues between distributors and across distribution businesses with this type of data. Certainly the level of SCADA type data available within each of the networks could be quite different depending on the historic views on network monitoring and integration into electrical network models.

The consultation paper suggests that the data may be able to be made available for example by means of a spreadsheet on a website as part of the distribution annual planning report (DAPR). This exercise is not a matter of downloading data into a spreadsheet from an on line database. The data would need to be gathered from both on line databases and also from archives. The various data collection resolutions would need to be standardised and the consumption data for the 30 minute interval derived from the data that was available at that point in time. Even despite this data gathering there will be the

data anomalies/gaps, device reprogramming and network switching impacts embedded within the data sets.

It is possible that not all field devices have existed in the field with the same format/naming convention across the whole year. This will make use of the data more problematic for a party who is not familiar with the operation and history of the UE network.

UE consider that with the issues/concerns outlined above that whilst the data can be made available, it will not be of much use without the corresponding understanding of what it means and the operations of the network. The ongoing management is likely to involve many questions and substantial support by skilled engineers within the business if the data is to be of any use.

UE query the incremental value of this level of data over already published data such as the peak load data per zone substation for the last 5 years in the annual distribution annual planning reports (DAPR) or the net system data which is metering quality interval data. UE note that the NGF has already proposed the connection point demand data from AEMO.

It is not tenable to place this amount of data in a spreadsheet on the UE website, it is many giga bytes of data. A better alternative may be to consider making available access to data files on request. Company websites have not been built to support major data warehouse type activities.

The DAPR requires each of the distribution businesses to actively engage and seek out alternatives to traditional network augmentation. As part of the DAPR rule change UE must collate a register of interested parties who would want to be contacted when alternatives to network augmentation are considered. In line with this, UE has an open invitation on our website to come and talk to us and this may be a better avenue for providing meaningful data than some download from a large data warehouse.

In addition the 2009 summer was the last hot summer with peak demand, UE query whether the data before the 2009 summer would be of any real value.

UE are also concerned that providing derived consumption data without the corresponding event data and network operations knowledge may not be useful. UE query whether a more complete arrangement is what is really being sought which would be akin to metering arrangements – standardised data formats, meter register information, meter event collection and use etc. This would involve an extensive B2B project over several years and would be a substantive cost. A substantial B2B project per business could be of the order of 4-10m\$ per business at least (these indicative costs do not include improved metering and data quality work etc).

Costs of Collecting and Publishing the data

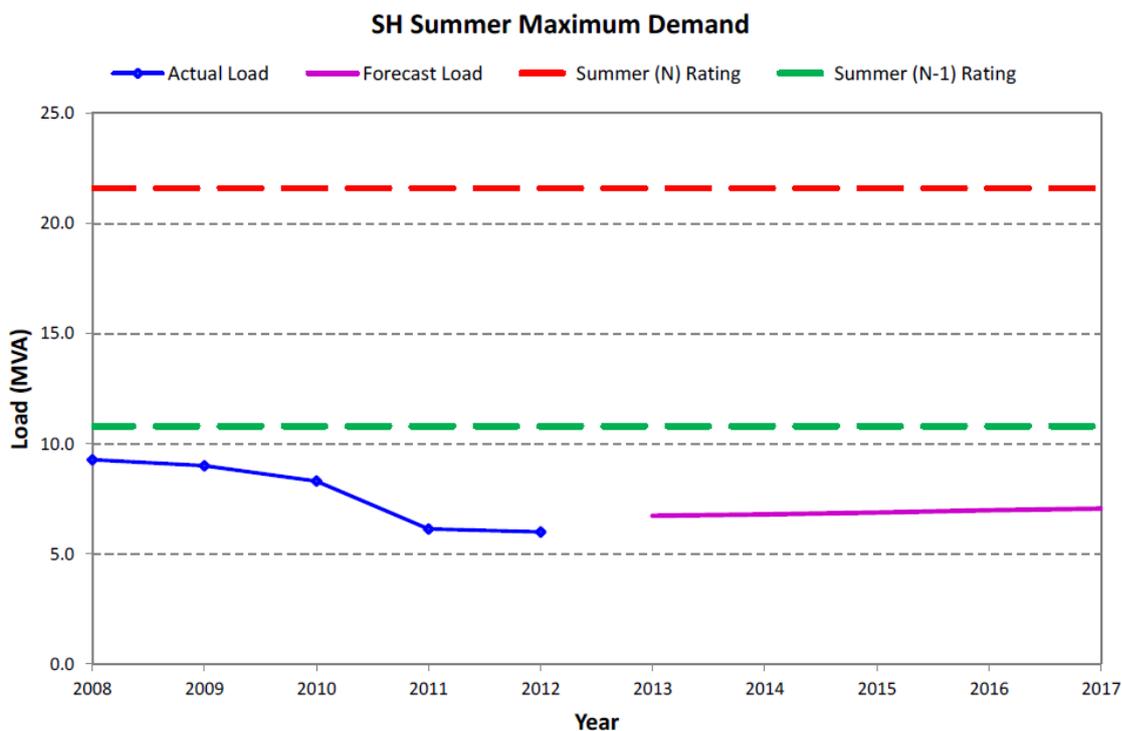
UE agree with the consultation paper that there are costs in collating and publishing the data both in providing the first 10 years and the ongoing data each year. The data can be made readily available, although there will need to be some assumptions made to derive consumption data and remove erroneous data. The extent of any further data cleansing will need to be agreed, as will the industry standardised format.

There may be a need to establish and maintain a specialised data warehouse which may be used to trawl the large volumes of data.

UE consider that there will be probably be more costs in providing support and educating parties on the meaning of the data than there is value in the data. UE would be concerned if the provision of this data meant that UE would incur additional costs in providing a significant level of engineering and data specialist support and would be extremely concerned if parties contacted control room operators to sort out data issues.

Given the complexity of the rules and the different products offerings that are expected over time, UE consider that it is unlikely that the costs of providing this data and supporting queries will decrease. It is more likely that parties will require SCADA level data to align to the quality of metering data and be provided more frequently adding significantly to the costs.

In the current distribution planning reports, the data below is published for each zone substation. These graphs, the possible options for alleviating any constraints and also a graph of the hours at risk and the maximum demand are also published. UE query whether this data could be better utilised first and contact made to our planning engineers at planning@ue.com.au before proceeding with a rule change. The public information already contains the last 5 years of maximum load at each UE zone substation.



Confidentiality issues

UE does not have any zone substations that provide 4 or less customers. Data would always be provided in an aggregated manner at the zone substation level, not feeder level. Where there were small numbers of customers on a zone substation, UE would be supportive of ensuring that aggregation occurred so that any available data set always represented at least above 4-10 customers.

Given the data anomalies outlined above, UE is concerned about the liability/warranty issues and the purpose/use of the data in certain commercial decisions by third parties.

Given that the data is well beyond the capabilities of websites and emailing spreadsheets around, access to data warehouses would need to be arranged with interested parties on request.

Expected benefits

The rule change proponent has requested the rule change for the following reasons:

- The rule proponent suggests that AEMO has a poor record in accurately forecasting likely demand trends and has consistently and substantially overstated future demand growth across the NEM. The rule proponent also cites limited information with which to evaluate longer-term demand trends in different parts of the economy. AEMO publishes regional data for dispatch at the trading interval but there is no detailed public sub-regional data to enable more rigorous analysis.
- The rule proponent cites that public release of historical zone substation data would give all market participants the raw data necessary to undertake or commission their own statistically robust analysis of demand patterns for different customer categories. Better data would allow better modelling and allow businesses to make efficient and informed decisions on plant closure. It would also allow NEM customers and demand side aggregators to have better information in considering investment in various market offerings involving demand side response.

UE refutes concerns regarding forecasting accuracy and the lack of public sub regional historic data. UE considers that the DAPR includes extensive reporting requirements and registers to be maintained of interested parties and demand response opportunities on the UE network. UE consider that these new process should be allowed to progress before assessing whether the data provided in a recent rule change is insufficient.

UE query that it will be possible to identify broad categories of customers taking supply from different parts of the distribution network in order to provide meaningful customer market segmentation and product development. As noted earlier in this submission there will be data anomalies and network switching etc which will impact the numbers of customers connected at any one time. Further, the operation of various non scheduled generators and the level of solar generation input would also raise doubts about the validity of any modelling.

The SCADA data provided is gross data and also includes distribution losses and unmetered supplies which will have around a 4-7% impact above metered customer consumption data. Whilst the rule proponent professes that demand patterns for different customer categories can be obtained, UE queries

how the rule proponent will know how many residential or commercial customers are electrically connected and supplied by that zone substation at any point in time. In addition customer size is often useful for market segmentation such as the number of small, medium and large customers. UE queries whether this data is known to the rule proponent to make the customer segmentation accurate and meaningful.

UE recognises that third parties may have issues obtaining data, however UE suggest that a bottom up build using quality metering data might be more meaningful.

Consistency with publication of connection point demand data

UE understand that AEMO is currently investigating a proposal to publish similar data collected at distribution connection points on the transmission networks. UE suspect that there may be similar issues and concerns with that data and its meaningfulness as those raised above.

Proposed Rule Change

UE have reservations about the net benefit of this rule change proposal and the usefulness of the data provided. Rather than provide for a rule change UE suggest that the interested parties who wish to have this data follow up the contacts provided on our website. It may be useful to provide some data to interested parties so they can better understand the data quality and usefulness before inserting an annual obligation to provide something that is likely to be of limited benefit.

As noted earlier in this response UE query the value of the data prior to the last hot summer in 2009. If the AEMC were to proceed with the proposed rule change having an annual obligation to provide the last 10 years of data may be better drafted as a one off obligation to provide the last 10 years data (or the last 5 years data) and then to provide an annual update of the previous years load data each year. Any new obligation should be limited to providing the data on request as opposed to publishing sizable databases on our website.