Forecasting Reference Group (FRG) DRAFT MINUTES

MEETING: FRG #13 2020

DATE: Wednesday, 28 October 2020

TIME: 2:00pm – 4:55pm AEDT

LOCATION: Teleconference

ATTENDEES:

Name	Company	Name	Company
Abbas Mohammadi	AEMO	Brad Harrison	ElectraNet
Adrian Grantham	AEMO	Franki Lee	Endeavor Energy
Ali Habibi Khalaj	AEMO	Connor McLeod	Enel
Andrew Turley	AEMO	Bradley Woods	Energy Australia
Bella Pennington	AEMO	Khai Chang	Energy Australia
Ben Jones	AEMO	Richard Paprzycki	Energy Australia
Cam Potter	AEMO	Victor Petrovski	Energy Australia
Dane Winch	AEMO	Ben Skinner	Energy Council
Daniel Collins	AEMO	Candice Hincksman	Energy Queensland
Daniel Guppy	AEMO	Shane Brunker	Energy Queensland
Debborah Marsh	AEMO	Jakes Jacobs	Energy Skills Queensland
Greg Staib	AEMO	Ron Logan	ERM Power
Helen Wang	AEMO	Brent Hudson	Essential Energy
Joachim Tan	AEMO	Zoe Dowsett	Essential Energy
Kent Hanh	AEMO	Mark Grenning	EUAA
Levi Rosenbaum	AEMO	Jonathan Jorgensen	Hydro Tasmania
Luke Dowling	AEMO	Robert Pane	Intergen
Magnus Hindsberger	AEMO	Brent Davis	Jemena
Matt Marston	AEMO	Stephen Coghlan	Jemena
Milton Woods	AEMO	David Headberry	Major Energy Users
Nick Culpitt	AEMO	David Havyatt	NICE
Siobhan Attwood	AEMO	Alan Yap	Nous Group
Vivian Mai	AEMO	Bill Nixey	NSW DPE
Audelle Hong	Alinta Energy	Sarah-Jane Derby	Origin Energy
Michelle Nguyen	Alinta Energy	Anna Livsey	PIAC
Sam Lei	Alinta Energy	Adam Ryan	Powercor
Karan Sharma	APPEA	Dean Knight	Powerlink
Alexandra Sidorenko	Ausgrid	Enrique Montiel	Powerlink
Ed White	Ausgrid	Jennifer Brownie	QEUN
Marc Thiebaut	Ausgrid	Phil Pollard	QEUN
Ricky Chen	Ausgrid	Peter Degorski	RepuTex
Morteza Moallemi	Ausnet Services	Sam Gard	RES in Australia
Nick Cimdins	Ausnet Services	Andrew Manson	SA Gov
Thakshila Gunaratna	CEC	Marino Bolzon	SA Gov

Henry Gorniak	CS Energy	Elisia Reed	SA Power Networks
Julio Braslavsky	CSIRO	Noel John Sligar	Sligar & Associates
Lachlan O'Neil	CSIRO	Brendan Ash	Stanwell
Nariman Mahdavi	CSIRO	Sharon Raymond	Tas Gov - Growth
Peter Goldthorpe	CSIRO	Herath Samarakoon	Tas Networks
Peter Wormald	Delta Electricity	Julie Morrison	Tas Networks
Henryk Smyczynski	DELWP	Prateek Beri	Tas Networks
Anna Evans	DISER	Arindam Sen	TransGrid
Alex Driscoll	EDGE 2020	Sujeewa Vithana	United Energy
Abu Abdullah	ElectraNet		

1. Welcome and Introductions

Daniel Collins (AEMO) welcomed everyone and covered the following:

- Open and recently closed actions.
- Asked for any corrections for the Sep 30 minutes to be provided by October 31.
- A Technical Forecasting Workshop was held on November 12th.
- Open Formal consultations on:
  - AEMOs Reliability Forecast Guidelines. First stage submissions close on 16 December 2020. (Action 4.12.1)
  - Demand Side Participation Information. Second stage submissions close on 25 November 2020. (Action 4.12.2)
  - Submissions to Energy.forecasting@aemo.com.au are appreciated.

2. Presentation 1 – Forecast Accuracy Report

Magnus Hindsberger (AEMO) presented a draft overview of AEMOs Forecast Accuracy Report (FAR) comparing the 2019 Electricity Statement of Opportunities (ESOO) forecast to actuals from the 2019-20 Financial year.

Key topics raised by stakeholders during this session included:

- Michelle Nguyen (Alinta Energy): Are there similar FAR results for the WEM?
  - AEMO: The 2020 WEM ESOO[1] included an assessment of maximum demand similar to what is published for the NEM. The FAR itself is limited to the NEM.
- Ron Logan (ERM Power): What are the thresholds for "yellow" lights for Maximum demand?
- Ron Logan suggested that the box plot show both actual and POE weather conditions at times of maximum monthly demand with a star (*) to enhance its interpretation.
  - AEMO: Yellow means the maximum demand can reasonably be explained by underlying drivers. The FAR details discussion of these in line with the FAR methodology, including comparing actual weather conditions to POEs.
- Ron Logan (ERM Power): Based on actual numbers published, Victoria seemed to be more inaccurate than shown.
  - AEMO: Victoria was the third largest inaccuracy, just below Tasmania.
- Jennifer Brownie (QEUN): Will the DER Register assist PV forecasting accuracy?
  - AEMO: The DER Register is part of the Forecasting Improvement Plan (FIP) and will help inform the uptake forecasts with data available from the go live date, 3 May 2020. Historical data may be less accurate. AEMO will validate this against other sources, such as the Clean Energy Regulator (CER).
- Jennifer Brownie (QEUN): What drove over-forecasting wind generation in Victoria and under-forecasting in South Australia (SA) on high temperature days?

[1] See Section 5.1.2 Available at: https://aemo.com.au/-/media/files/electricity/wem/planning_and_forecasting/esoo/2020/2020-wholesale-electricity-market-electricity-statement-of-opportunities.pdf

    - AEMO: New wind generators (>1GW) in Victoria experienced commissioning delays delayed. Additionally, several days experienced unexpected high temperature cut-offs. Conversely, South Australia had unusual simultaneously hot and windy conditions for 3 of 10 days studied.
- Arindam Sen (TransGrid): Was NSW over forecast due to PV uptake and COVID-19? Was the variance for NSW within the acceptable range?
    - AEMO: New South Wales variance was low, but slightly under forecast which remains unexplained. The FIP includes investigation of smart meter data to gain better understanding of the residuals and why the inaccuracy occurred.
    - Native demand, including PV non-scheduled generation (PVNSG) and other non-scheduled generation (ONSG), is published online[2].

3. Presentation 2 – Forecasting Improvement Plan (FIP)

Magnus Hindsberger (AEMO) presented AEMOs planned forecasting improvements following the observations in the draft FAR.

Key topics raised by stakeholders during this session included:

- Nick Cimdins (AusNet Services): Will the forecasting improvement of PV include its contribution to max demand?
    - AEMO: With improved data collection of installed PV capacity, estimated PV generation will improve, including at time of peak demand.
- Nick Cimdins (AusNet Services): Where do the SA and VIC maximum demand numbers from the past two years fit in the distribution?
    - AEMO: These past two years are anomalies due to relatively hot summers. South Australia was between POE15 and POE10 and Victoria was approximately POE25 in 2018-19 and POE10 in 2019-20.
    - Maximum demand is assessed after accounting for Demand Side Participation (DSP) and RERT.
- Ben Skinner (AEC): DSP was higher than what the DSP forecast identified. Were any large loads not reported in the DSP Portal? Has this been rectified for the future?
    - AEMO: All large industrial sites are included in the DSP forecast to ensure AEMO capture the responses regardless of whether reported or not. Some site-specific responses were underestimated, as the methodology excluded them. The DSP methodology has been updated to include their responses.
- Victor Petrovski (Energy Australia): Do transmission and distribution losses trend lower as the network is more lightly loaded?
    - AEMO monitors the trend in annual losses. Transmission losses are generally flat, with some region's distribution losses declining slightly. AEMO will monitor if this persists and revise accordingly.
- Ron Logan (ERM Power): AEMO's rule interpretation of USE should not include intra-regional transmission or multiple credible contingency events.
    - AEMO's interpretation of the rules for a reliability gap has been consulted on in numerous methodologies. As outlined in the conclusion to the 2020 RSIG consultation, AEMO believes its implementation of *unserved energy* and *inter-regional transmission elements* is consistent with the NER.
- Ron Logan: Can the DER Register identify both new installations and replacements?
    - AEMO: Any additions and removal of systems should be reported to the DER Register, although lower data quality may exist within the historical data set (prior to go-live from May 2020).
- Ron Logan: Do the Queensland outages include actual data or truncated data?
    - AEMO: The FAR shows the range of 2.5% - 97.5% of the simulated supply availability distribution to only capture the majority of circumstances while excluding extreme outliers. This is consistent with the recently consulted on Forecast Accuracy Reporting Methodology[3] and has previously been supported by industry.

[2] Available at: http://forecasting.aemo.com.au/Electricity/AnnualConsumption/Operational/
[3] Available at: https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2020/forecast-accuracy-report-methodology/forecast-accuracy-reporting-methodology-report-aug-20.pdf

- AEMO: When reporting on historic supply availability, this FAR used PASA availability data, consistent with the Forecast Accuracy Reporting Methodology.

4. Presentation 3 – Forecasting Enhancement Research Projects

Greg Staib (AEMO) explained how the CSIRO's National Energy Analytics Research (NEAR) project assists AEMO's forecasting. Lachlan O'Neil (CSIRO) presented the process and preliminary results of the joint AEMO-CSIRO NEAR project. Lachlan presented updates on weather sensitivity on electricity demand and battery detection.

Key topics raised by stakeholders during this session included:

- Nick Cimdins (Santos): Can the methodology be narrowed to focus on sensitivity to heat at times of peak demand, specifically between 5-7pm?
  - Lachlan O'Neil: The methodology can be narrowed to specific windows. This idea will be discussed in the future.
- Ron Logan (ERM Power): Is there a saturation point when the increase in temperature begins to have a lower proportional impact on demand?
  - Lachlan O'Neil: This is included in the methodology. Increasing temperature above average drags up each coefficient.
- Ron Logan: There should be time of use tariffs to export to the grid. Why do batteries export overnight and not keep some storage for the morning?
  - Lachlan O'Neil: Overnight exporting is common, perhaps due to:
    - Anticipation of excess solar the next day.
    - Cycling for the battery's health.
    - A miscommunication of tariffs in the battery's configuration.
    - Participation in a Virtual Power Plant program (VPP), which may lead to exports at irregular times.
- Prateek Beri (Tas Networks): Is the number of annual cycles of each battery visible?
  - Lachlan O'Neil: Only aggregate data is used; the frequency of events was not investigated. Further collaboration is welcome.
- Jennifer Brownie (QEUN): Have these households given consent for this study?
  - Lachlan O'Neil: CSIRO's data privacy policies ensure data is deidentified and analysts have no visibility of particular individuals.
  - AEMO: Significant legal processes are implemented to deidentify data. The aim of this project is to benefit consumers through the increased accuracy and transparency of forecasts.
- Victor Petrovski (Energy Australia): Can this methodology be used to identify the impact of other appliances usage on peak demand?
  - Lachlan O'Neil: A similar methodology may be implemented for Electric Vehicles as they become more popular. Air conditioners, however, would require verification of both existence and the number of units installed.

5. Other Business

AEMO have held several workshops and webinars on Forecasting and planning scenarios[4] before the Draft Inputs, Assumptions and Scenarios Report (IASR) is consulted on in December. To join the ISP and IASR related activities mailing list, email forecasting.planning@aemo.com.au.

Key topics raised by stakeholders during this session included:

- Jennifer Brownie (QEUN): Will AEMO study the impact of hailstorms on PV?
  - AEMO: This will be considered as a potential extreme event case study in the ESCI project.

6. Meeting close

The next FRG meeting is scheduled for Wednesday 25 November and will include presentations on ISP scenarios, the Forecasting Approach and the FRG review and forward plan.

[4] Recordings of webinars are available at: https://aemo.com.au/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/scenarios-inputs-assumptions-methodologies-and-guidelines

Appendix A Forecasting Reference Group (FRG) Actions Items

FRG Action Items – OPEN (as at 18 November 2020)

Item	Date Raised	Topic	Action required	Responsible	Due	Status
4.2.2	10/06/2020	Improve FOR data collection	Improve data collection to include causes of outages	AEMO	Dec 2020	OPEN
4.11.1	11/11/2020	Reliability Forecast Guidelines Consultation	First stage submissions to RFG Consultation sent to energy.forecasting@aemo.com.au	Participants	16 December 2020	OPEN
4.11.2	11/11/2020	DSPI Guidelines Consultation	Second stage submissions to energy.forecasting@aemo.com.au	Participants	25 November 2020	OPEN

FRG Action Items – CLOSED (as at 18 November 2020)

Item	Date Raised	Topic	Action required	Responsible	Details	Status
4.6.1	30/09/2020	GDP Data release	Release final data behind GDP growth rates for the COVID-19 recovery	AEMO	Will be published with IASR on December 11	CLOSED