

Implementation of 30-Minute Balancing Gate Closure (RC_2017_02) – Update and Discussion

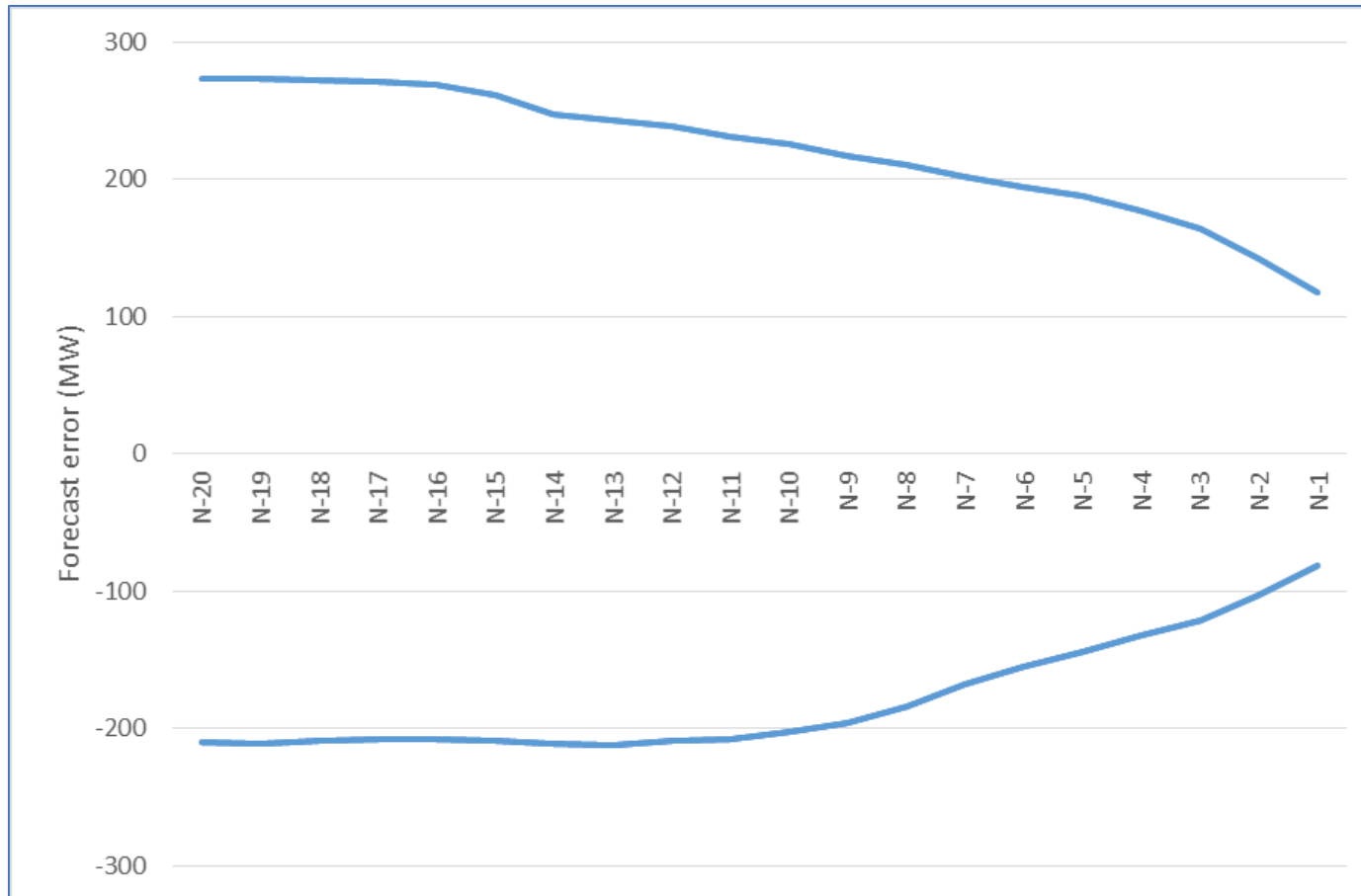
**MAC Meeting 2017-03
12 July 2017**

Introduction

- Update MAC and discuss initial observations
- Discuss next steps
- Initial RCP Support observations only
- Rule Change Panel yet to consider proposal
- Complex proposal with multiple interrelated issues
- Further analysis needed to support decision

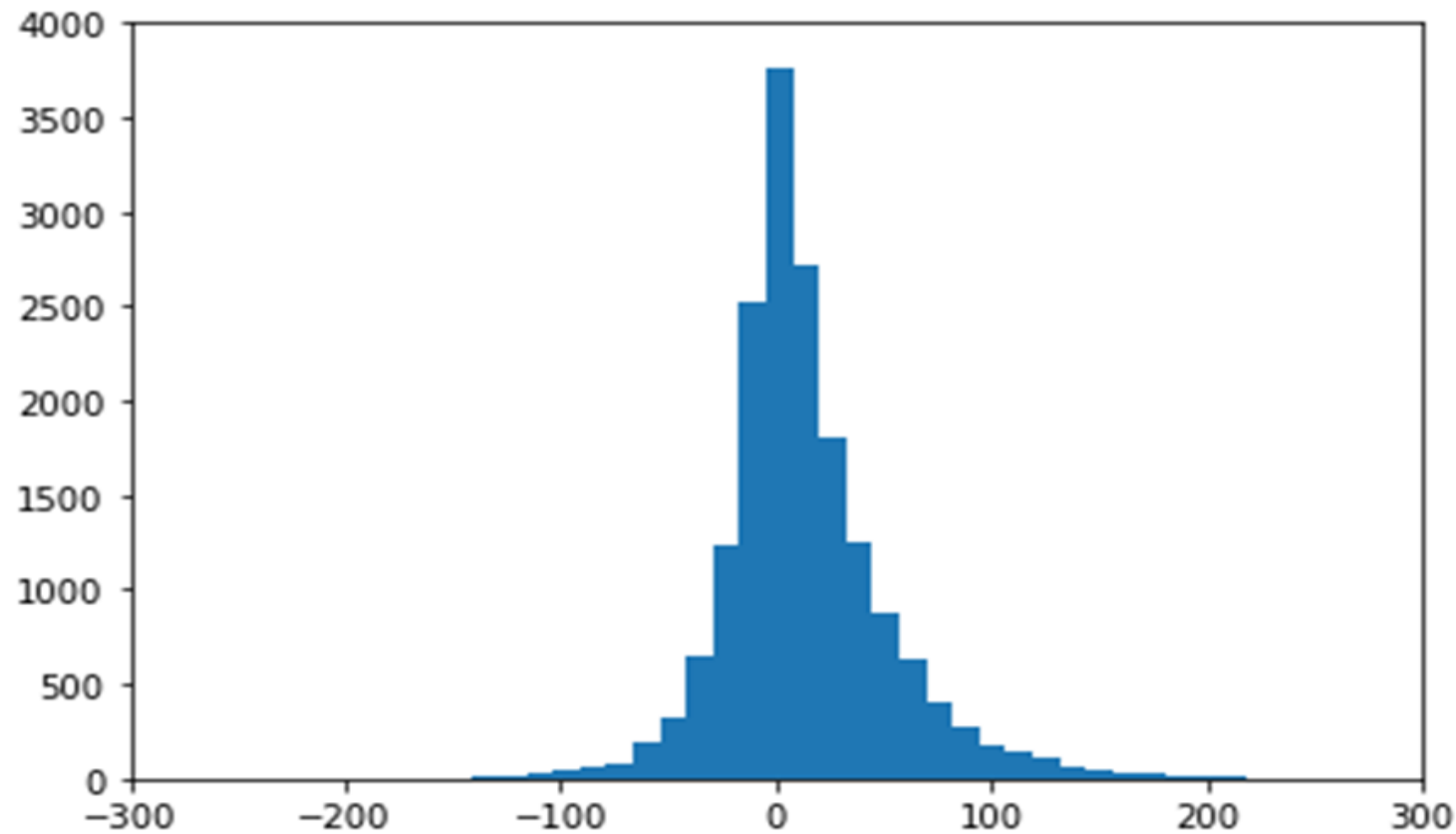
Benefits – forecasting accuracy

2.5 and 97.5 percentiles of load forecast error distribution (2016)



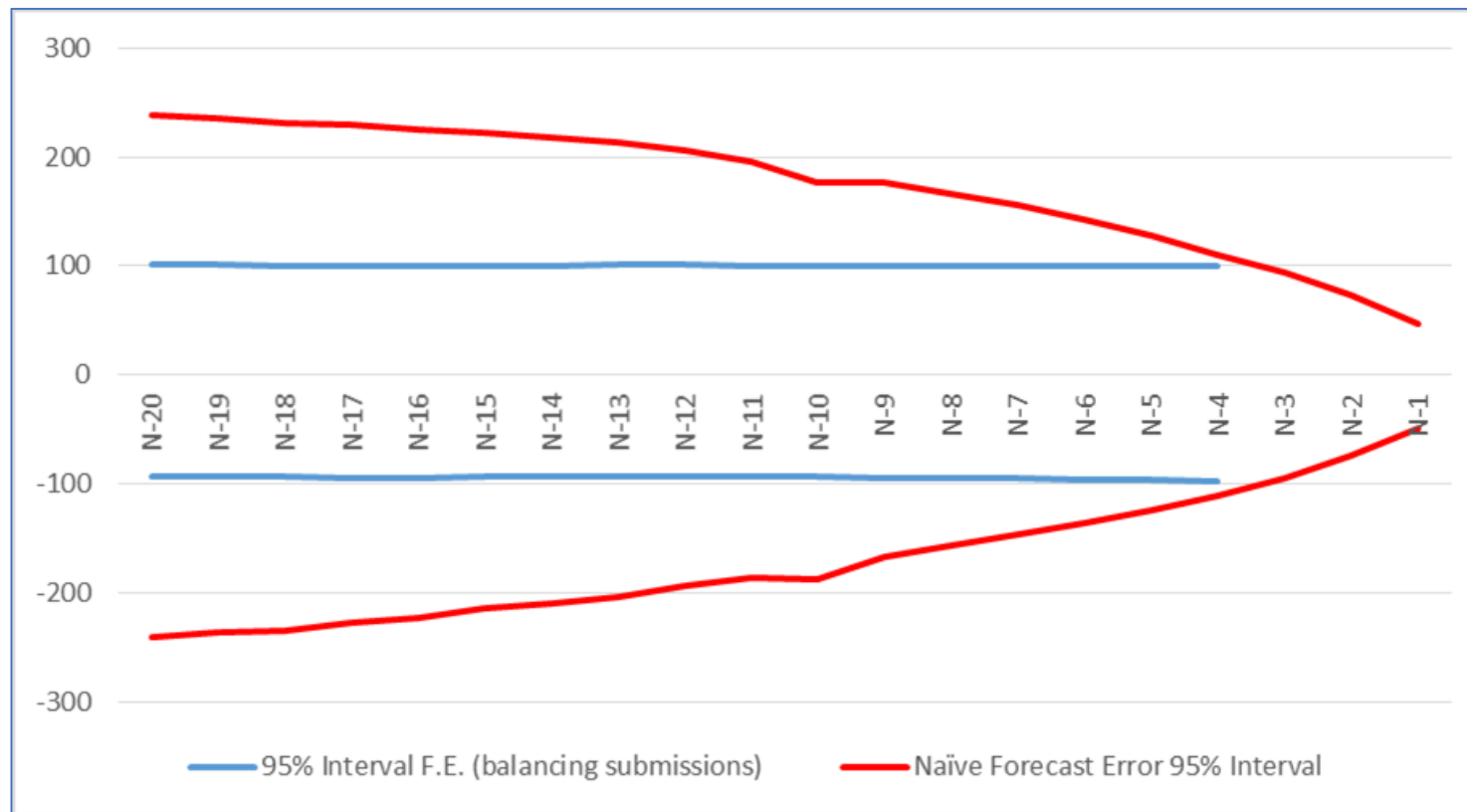
Benefits – forecasting accuracy

Distribution of the difference of absolute forecast errors, N-5 vs N-2 (2016)



Benefits – forecasting accuracy

Forecast error 95% interval for NSG Balancing Submissions and naïve forecasts (2016)



Benefits – forecasting accuracy

- Significant improvements closer to Trading Interval
- Difficult to quantify dollar benefits as likely to affect participant behaviour but expect change would
 - support more efficient bidding
 - encourage competition
- Potential benefits reduced by wind forecast inaccuracy
- Potential benefits apply to IPPs and Balancing Portfolio

AEMO concerns

- <30 minutes requires market system redesign
- Controllers need time to plan and execute Synergy dispatch
- BMO ramp rate discrepancies major problem
- Contingency analysis requirements
- Later gate closure additional source of volatility for Controllers
- New Controllers

Cost-related concerns

- Potential for increased constraint payments
- Potential for increased LFAS costs
- Synergy's concerns
 - Free LFAS
 - Information asymmetry and shadow pricing - inefficient wealth transfers

Initial observations

- Likely short payback period for any solution
- Synergy coal plant movements critical path for AEMO
- Constant Synergy Balancing Submission ramp rate
- Contingency analysis requirements?
- BMO ramp rate discrepancies already exist
- Proposal may increase BMO ramp rate discrepancies

Initial observations

- <30 minutes not feasible with current systems
- 30 minutes may be too difficult/risky with current dispatch tools
- 60 minutes may be technically feasible but
 - May affect Synergy dispatch planning
 - Depends on ramp rate discrepancy approach
- 90 minutes reduces benefits

Ramp rate discrepancies - current

- Current approach appears to be
 - LFAS/out of merit dispatch of Balancing Portfolio (shared units)
 - Additional Balancing Portfolio ramping capacity if enough time
 - Constrain IPP Generators on/off if not enough time

Ramp rate discrepancies - options

- Linear ramping/five minute dispatch cycle
- “Staggered” dispatch using Operating Instructions or amended Dispatch Instructions
- Additional LFAS if time
 - Subject to lead times for normal and Backup LFAS
 - Potentially high cost depending on time
- Changes to constrained on/off compensation eligibility rules
- Changes to commitment/de-commitment rules
- Accept additional constraint payment costs

Related issues

- Balancing Portfolio advantages and disadvantages
- Synergy provision of free LFAS – obligation to sculpt LFAS Requirement
- Changes to LFAS Gate Closure times
- Wind forecast quality
- Solar PV forecast quality
- Progression vs approval of Rule Change Proposals
- “Over-rewarding” of flexible fast-start units
- Generator Interim Access effects
- Inertia

Next steps

- Clarification of submissions
- Discuss submissions with Rule Change Panel
- Workshop to discuss technical concerns and ramp rate discrepancy options
- Timing may depend on urgency rating of Rule Change Proposal