2014 FORWARD LOOKING LOSS FACTOR METHODOLOGY REVIEW

FINAL REPORT AND DETERMINATION

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AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

EXECUTIVE SUMMARY

The publication of this Final Report and Determination (Final Report) completes the Rules consultation process conducted by AEMO to consider proposed changes to the Methodology for Calculating Forward Looking Transmission Loss Factors (Methodology) under the National Electricity Rules (NER).

AEMO's Issues Paper identified what AEMO considered were the four main issues with the Methodology:

- provide Generators a better opportunity to advise AEMO of unrepresentative generation profiles;
- allow AEMO to adjust historical flows on MNSP networks to reflect any proposed change in generation profiles;
- correct how AEMO currently manages generating unit capacity reductions; and
- re-write the Methodology to separate it from the associated commentary.

Three key issues were identified in submissions received in the First Stage of the consulation, while no new issues were raised during the Second Stage.

1. Publication of revised generation profiles - AEMO will only publish revised generation profiles so as to avoide disclosing commercially sensitive material.
2. Use of more recent historical data - AEMO will continue to use the most recent financial year data but will use the most recent data available when considering whether to accept revised generation profiles.
3. Use of revised generation profiles not based on changes to physical circumstances - AEMO will continue to explore potential changes in the future to account for market changes.

Issues outside the scope of this review will be brought to the attention of the NEM Wholesale Consultative Forum.

AEMO has amended the Methodology in the form published with this Final Report.

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1 Stakeholder Consultation Process

As required by clauses 3.6.1(c) and 3.6.2(d) of the NER, AEMO has consulted on proposed changes to the Methodology for Calculating Forward Looking Transmission Loss Factors (Methodology) in accordance with the Rules consultation procedures in rule 8.9.

Table 1 outlines the consultation steps undertaken by AEMO.

Table 1: AEMO Consultation Timetable

DELIVERABLE	INDICATIVE DATE
Stakeholder Forum 1	25 June 2014
Notice of First Stage Consultation [and Issues Paper] published	17 July 2014
First Stage submissions closed	22 August 2014
Stakeholder Forum 2	3 September 2014
Draft Report & Notice of Second Stage Consultation published	22 September 2014
Second Stage submissions closed	10 October 2014
Final Report published	30 October 2014

The publication of this Final Report and Determination (Final Report) marks the completion of the consultation.

2 Background

2.1 NER requirements

The NER requires AEMO to calculate, each year, inter-regional loss equations and intra-regional loss factors, and to publish the results by 1 April. The NER further requires AEMO[1] to determine, publish and maintain in accordance with NER consultation procedures, a methodology to determine the inter-regional and intra-regional loss factors to apply for a financial year for each transmission network connection point. This methodology was developed after consultation with the market in 2002 and has remained largely unchanged since then.

2.2 Context for this consultation

This consultation considered proposed changes to the Methodology developed by AEMO in accordance with NER clause 3.6.1(c) and 3.6.2(d). Hence, any issues raised by Consulted Persons that would require changes to the NER are outside the scope of this review.

3 First stage consultation

AEMO issued a Notice of First Stage Consultation on 17 July 2014, together with an Issues Paper outlining a number issues and proposed amendments to the Methodology and inviting comments from Consulted Persons.

AEMO identified four main issues with the Methodology:

1. Historical generation profiles.

[1] NER Clauses 3.6.1(c) and 3.6.2(d)

2. Historical MNSP flows.
3. Generating unit capacity reductions.
4. The Methodology document is difficult to read due to the inclusion of commentary in the same document.

The Issues Paper proposed the following amendments to the Methodology to deal with these issues;

1. Provide Generators a better opportunity to advise AEMO of incorrect generation profiles.
2. Allow AEMO to adjust historical flows on MNSP networks to reflect any proposed change in generation profiles.
3. Correct how AEMO currently manages generating unit capacity reductions.
4. Re-write the Methodology to separate the Methodology from the associated commentary.

AEMO received six written submissions. Copies of all written submissions, have been published on AEMO's website.[2]

4 Second stage consultation

AEMO issued a Notice of Second Stage Consultation on 22 September 2014, together with the Draft Report outlining proposed changes to the Methodology and AEMO's reasoning and inviting comments from Consulted Persons.

In summary, the material issues raised by Consulted Persons and AEMO's response to each were:

1. Publication of revised generation profiles - AEMO will publish details of revised generation profiles on the basis of the aggregated change in quarterly energy generated on a regional of sub-regional basis only.
2. Use of more recent historical data – AEMO will continue to use historical generation data from the most recently completed financial year
3. Use of revised generation profiles not based on changes to physical circumstances - Inclusion of low storage levels or rainfall variability in relation to hydroelectric generation as physical circumstances when proposing revised generation profiles.

AEMO's consideration of all material and other issues raised is detailed in the Draft Report and Determination and summarised in the table contained in Appendix A.

4.1 Submissions received in response to the Draft Determination and Report

AEMO received two submissions in response to the Draft Report, which are available on the AEMO website[2].

- Hydro Tasmania was supportive of the changes made.
- While generaly supportive of the changes, the Major Energy Users (MEU) again suggested AEMO should use more recent historical data when calculating MLFs, and suggested using a 12-month period ending each November.

[2] http://www.aemo.com.au/Consultations/National-Electricity-Market/Review-of-Methodology-for-calculating-Forward-Looking-Transmission-Loss-Factors

4.2 Use of more recent historical data

4.2.1 Issue summary

AEMO currently uses historical generation data from the previous financial year. A previous submission from the MEU suggested using more recent historical data.

4.2.2 AEMO's assessment

The issue relating to historical data was discussed in the Draft Report. At the Industry Forum of 3 September 2014, participants agreed there was little value in moving the data year by six months only. The suggestion by the MEU to move the data year to November represents a change of only five months.

It should also be noted that AEMO will provide Generators with historical generation data and extrapolated generation values that AEMO intends to use in the MLF calculation each year. Generators have until 15 November to provide revised profiles if they consider the historical generation data is not representative of the forecast year.

4.2.3 AEMO's conclusion

AEMO's conclusion remains unchanged from the Draft Report in that AEMO will continue to use historical generation data from the most recently completed financial year.

AEMO will use the most recent data available when carrying out due diligence on any revised generation profile provided by Generators.

5 Final Determination

AEMO publishes the Methodology for Calculating Forward Looking Transmission Loss Factors in the form of Attachment 1, in accordance with clauses 3.6.1(c) and 3.6.2(d) of the NER.

Appendix A - Summary of Submissions and AEMO Responses

NO.	CONSULTED PERSON	ISSUE	AEMO RESPONSE
Submissions received in response to the Issues Paper			
1.	GDF Suez	Any significant deviations between a Generator's proposed changes and the outturn results should be published, and AEMO should historically review any Generator changes and compare those to actual results.	AEMO will publish limited details of revised generation profiles provided to AEMO and used in the MLF calculation process. AEMO will also historically review the proposed and actual generation profile and report on any major differences. The Methodology has been updated accordingly.
2.	GDF Suez	In reviewing any ESOO capacity reductions, AEMO should adopt a similar framework for assessment as described in Section 5.5.6 of the Methodology	AEMO will consult with individual generators to determine if a capacity reduction is related to maintenance.
3.	Central Irrigation Trust	CIT believes that it is not appropriate or fair that those customers on the transmission lines supplying the interconnectors should be accountable for the losses incurred by sending extra power from South Australia to Victoria.	Any changes to the calculation of loss factors in this respect would require changes to the market design principles and the NER. While this is outside the scope of the current review AEMO will bring this to the attention of the NEMW-CF
4.	Hydro Tasmania	Hydro Tasmania supports the intention of and the proposed wording for clause 5.5.6 but requests the underlined change • Drought conditions or low storage levels or rainfall variability for hydroelectric generators	See section 4.3 of the Draft Report
5.	Hydro Tasmania	Hydro Tasmania proposes that AEMO publishes aggregates or load duration curves for generators summed on a regional basis at a monthly or quarterly resolution rather than explicit machine outputs for those generators supplying revised generation profiles.	See section 4.1 of the Draft Report
6.	Origin Energy	Origin suggests the process of providing indicative generation inputs and the associated timeframe be explicitly written into the Methodology as it is an important improvement to the MLF establishment process.	AEMO agrees with this proposal, and has updated the Methodology accordingly
7.	Origin Energy	The revised drafting of clause 5.5.6 explains that the provision of revised generation profiles is based on physical rather than market related or as the result of the financial position of generators. Origin appreciates this is intended to ensure revised profiles are easily verifiable but considers this may not always produce the most accurate profile. To address such issues and improve accuracy of the MLF calculations, Origin suggests AEMO continue to consider whether there are any	See section 4.3 of the Draft Report

		further improvements to the process for establishing MLFs outside the scope of this review.	
8.	Origin Energy	In relation to the double counting of capacity reductions Origin support both proposals but for the latter proposal the Methodology needs to provide a clear definition for a maintenance outage.	See section 4.3 of the Draft Report
9.	Major Energy Users	AEMO is required under the National Electricity Law, that what it does has to be '.. in the long term interests of consumers.." but nowhere in the issues paper does AEMO highlight where its proposed changes reflect these long term interests	AEMO has proposed changes to the Methodology on the basis of improving the accuracy of the MLF values calculated each year. This is in the long term interest of all participants.
10	Major Energy Users	Consumers are very concerned that the current approach to setting the MLFs results in year on year movements of the MLFs and as direct connected and sub transmission connected users are very large users of electricity, this yearly variation in the MLFs can lead to very significant cost variations.	The current MLF process reflects changes in the market, albeit with up to a two year lag in some of the input data. AEMO believes it is the changes in the market environment that are responsible for variations in MLFs. Any methodology determined in accordance with the NER to calculate MLFs should capture these variations. The changes proposed by AEMO are to improve the accuracy of the MLFs by improving some of the input data, especially in the area of historical generation inputs. While this will not necessarily lessen the yearly variations it will assist in making the process inputs more reflective of the year for which the MLFs are calculated.
11	Major Energy Users	MLFs do not reflect the locational impact of losses that are actually incurred. By their very nature being set at the margin, MLFs over-recover the cost of losses and the redistribution of this over-recovery is then carried out in a way which does not reallocate this over-recovery to those that paid the excess amount.	The Methodology has been developed in accordance with the NER. Any changes to address this issue would require changes to the market design principles and the NER. While this is outside the scope of the current review AEMO will bring this to the attention of the NEMW-CF
12	Major Energy Users	With reference to issue 12, for consumers this over-recovery is returned through transmission charges. The MEU considers that levying an excessive charge and then returning the unneeded amount at a later time is not in the long term interest of consumers. The MEU considers that the MLFs should be calculated in the way proposed and then discounted to reflect the forecast losses actually anticipated for the year.	The Methodology has been developed in accordance with the NER. Any changes to address this issue would require changes to the market design principles and the NER. While this is outside the scope of the current review AEMO will bring this to the attention of the NEMW-CF
13	Major Energy Users	The MEU suggests that this review should address consumers' interests as it does those of the supply side	AEMO has considered all views that are within the scope of this review. As noted in the issues paper AEMO is looking to make changes to the Methodology that can be implemented for the 2015/16 MLF calculation. This precludes any changes to market design or the NER.
14	Major Energy Users	AEMO should use the most recent generation input data available and not use outdated data that might be more convenient	See section 4.2 of the Draft Report

15	Major Energy Users	To address the known changes in demand, the MEU suggests AEMO, just as it does for setting Victorian transmission charges, should seek advice from large electricity users.	AEMO agrees and confirms this is already being included as part of the process for developing connection point forecasts. These connection point forecasts are then used in the MLF process.
16	Major Energy Users	The MEU notes that AEMO intends to trial the indicative extrapolation of generation profiles with market participants. The MEU agrees with this approach but considers that it should be expanded to include large users in this process as well.	The generation profiles are based on the use of historical data and then adjusted on the basis of minimal extrapolation which is based on a set of simple rules. On the contrary, demands are based on the development of connection point forecasts. This is a sophisticated statistical analysis of historical data combined with known trends in demand and consultation with major customers. Therefore AEMO consideres that the existing process already takes into account large and small loads in detail.
17	Hydro Tasmania[3]	On the basis that the ESOO considers outages for only the defined sumer and winter periods how would the MLF process be informed of capacity reductions outside of these periods	Any planned outages not captured by the ESOO should be advised to AEMO under clause 5.5.6 of the Methodology. AEMO will then make an assessment as to whether to include the outage in the MLF process. This assessment would be on the basis of • Confirming the outage is based on a physical circumstance • Sufficient duration to be considered not a routine outage
	Submissions received in response to the Draft Determination		
18	Hydro Tasmania	Supported changes made by AEMO	Noted
19	Major Energy Users	Largely agreed with changes made by AEMO.	Noted
20	Major Energy Users	AEMO should consider using the most recent generation data available (e.g. at the end of November).	See section 4.2

[3] Email to AEMO on 3 September 2014.

Attachment 1 – Methodology for Calculating Forward Looking Transmission Loss Factors

Published as a separate document on AEMO's website with this Final Report.