

23 February 2026

Ms Anna Collyer
Chair, Australian Energy Market Commission
Level 15, 60 Castlereagh St
Sydney NSW 2000

Dear Ms Collyer,

AEMO request for National Electricity Rule Change – Loss Factors Investor Stability

AEMO is seeking a change to the National Electricity Rules (NER) to insert, alongside existing accuracy principles, a principle that marginal loss factor (MLF) determinations can consider the need for investment stability.

AEMO wishes to adjust its MLF calculation procedure to reduce the potential for significant year on year volatility and resulting investor risk. However, the existing NER require AEMO to maximise the accuracy of each MLF as a representation of the average marginal losses between the relevant transmission connection point and regional reference node, which can create large annual swings.

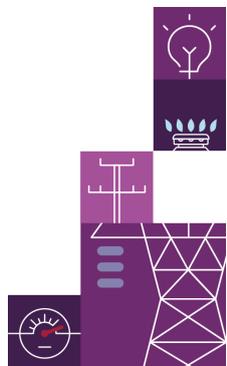
AEMO is proposing this NER change following an extended research project which included stakeholder engagement and a public consultation process. The rule change being sought is identical to that presented in the project's draft report and supported by submissions. On this basis, AEMO requests the Australian Energy Market Commission (AEMC) consider progressing this proposed rule change under the 'fast track' process as contemplated in section 96A(1)(a) of the National Electricity Law. This option will minimise unnecessary duplication for the AEMC and all affected stakeholders.

Please find attached the Rule Change proposal. Should you wish to discuss any aspect of our submission, please contact Hannah Heath, Group Manager, Strategic Market Reform (Hannah.Heath@aemo.com.au).

Yours sincerely,



Violette Mouchaileh
Executive General Manager, Policy & Corporate Affairs



Marginal Loss Factor Determination: Investor Stability Principle

February 2026

Contents

1. Summary and fast track request	3
2. Relevant background	4
2.1. Current framework	4
2.2. Narrative of issue and proposed changes	5
3. Statement of issue	7
3.1. Current rules	7
3.2. Issues with the current rules	8
4. How the proposal will address the issues	9
4.1. How the proposal will address the issues	9
4.2. AEMO procedure changes – the Glide Path	10
4.3. Stakeholder engagement	13
5. Proposed rule	15
5.1. Description of the proposed rule	15
5.2. Minor/consequential rule changes	15
5.3. Transitional matters	15
6. How the proposed rule contributes to the national electricity objective (NEO)	16
7. Expected benefits and costs of the proposed rule	17
8. Draft rule	18

Tables

Table 1 Impact of $X=\pm 0.03$ on individual and total NEM outcomes – CP data.....	13
------------------------------------------------------------------------------------	----

Figures

Figure 1 Worked example of glide path, $X=\pm 0.03$ – investment in year 3.....	11
---------------------------------------------------------------------------------	----

1. Summary and fast track request

AEMO is seeking a change to the National Electricity Rules (NER) to insert, alongside existing accuracy principles, a principle that marginal loss factor (MLF) determinations can consider the need for investment stability.

AEMO wishes to adjust its MLF calculation procedure to reduce the potential for significant year on year volatility and resulting investor risk. However, the existing NER require AEMO to maximise the accuracy of each MLF as a representation of the average marginal losses between the relevant transmission connection point and regional reference node, which can create large annual swings.

AEMO is proposing this NER change following an extended research project which included stakeholder engagement and a public consultation process. The rule change being sought is identical to that presented in the project's draft report and supported by submissions¹. On this basis, AEMO requests the Australian Energy Market Commission (AEMC) consider progressing this proposed rule change under the 'fast track' process as contemplated in section 96A(1)(a) of the National Electricity Law. This option will minimise unnecessary duplication for the AEMC and all affected stakeholders.

¹ The MLF Framework Review page is at <https://www.aemo.com.au/energy-systems/electricity/national-electricity-market-nem/market-operations/loss-factors-and-regional-boundaries/marginal-loss-factor-framework-review>. Submissions are at <https://www.aemo.com.au/consultations/current-and-closed-consultations/marginal-loss-factor-frameworks-reform-research>.

2. Relevant background

2.1. Current framework

The National Electricity Market (NEM) applies an MLF regime consistent with its marginal regional reference price (RRP) design and hub and spoke network representations. MLFs, in the context of this rule change proposal, are referred to in the NER as ‘**intra-regional loss factors**’. One static annual MLF is applied to each transmission connection point for a financial year. This MLF is calculated prior to the year’s start from a weighted average of forecast marginal losses between the relevant transmission connection point and the RRN.

As required by the NER, AEMO calculates and publishes the static MLFs for the NEM ahead of each financial year. The resulting MLFs adjust dispatch offer prices and participant settlements. MLFs are also used by the Clean Energy Regulator to adjust generator renewable energy certificate creation². They play a major role in the market’s investment and operational efficiencies, and its commercial outcomes.

The underlying MLF framework has remained largely unchanged since NEM commencement. Previous NEM regulatory processes have considered, but ultimately not introduced, major MLF framework reform:

- transmission loss factor rule change proposals submitted by Adani Renewables³, and
- AEMC coordination of generation and transmission investment (CoGaTI) reviews 1 and 2⁴.

Calculating ex-ante static MLFs is a challenging and commercially impactful task. The NER prescribe that a loss factor must represent the volume-weighted average marginal losses between the RRN and the relevant transmission connection point for each trading interval in the year. They require the MLF to reflect (or ‘describe’) those losses ‘as closely as is reasonably practicable’, meaning accuracy is the regulated priority.

MLF calculation involves forecasting each half-hour of market dispatch in the upcoming financial year. Having predicted a half-hour dispatch pattern, a marginal loss for that half-hour for each node is determined from a load-flow model of the network. This is done by marginally varying the generation or load at each load flow node and observing the change in output of a slack generator at the local RRN. These half-hourly MLFs are then used to determine a single year’s MLF by volume-weighted averaging, where the volume is the generation or load at the relevant node.

² See <https://cer.gov.au/schemes/renewable-energy-target/large-scale-renewable-energy-target/large-scale-generation-certificates/calculate-large-scale-generation-certificate-entitlements>.

³ At <https://www.aemc.gov.au/rule-changes/transmission-loss-factors#:~:text=On%2027%20November%202018%20Adani,between%20generators%20and%20networks%20users>.

⁴ See <https://www.aemc.gov.au/markets-reviews-advice/reporting-on-drivers-of-change-that-impact-transmi> and <https://www.aemc.gov.au/market-reviews-advice/coordination-generation-and-transmission-investment-implementation-access-and>.

While the NER lay out a clear framework for the above, it is the calculator's role to determine the forecast dispatch and network conditions to be assumed in the calculation, which in turn have significant impacts on the resulting MLFs. In the NEM these are determined under AEMO's Forward Looking Transmission Loss Factors methodology (FLLF methodology); this has regular consulted improvements, and Version 9.0 is presently operational⁵. AEMO expects these incremental improvements to continue as needed, within the limits set by the NER.

In its role, AEMO is aware of issues raised regarding the broader framework in the NER, and notes:

- As MLFs must be determined annually in advance, MLF accuracy relies on forecasts of dispatch and network conditions.
- If forecasts prove accurate, a static, weighted-average MLF design can represent accurate revenue impacts over time and send the correct long-term investment signal. However, an MLF that does not vary with dispatch conditions within the year implies short-term inaccuracy and may result in operational inefficiencies, by deviating from the economic merit order at times.
- As network topology, market investments and load patterns change over time, so will MLFs. The annual step changes in MLF can surprise participants and create investment risk. AEMO understands there is no existing way to insure against this volatility.

These issues have emerged in AEMO's FLLF methodology consultations, most recently in 2024⁶. In that review, the Clean Energy Council suggested AEMO allocate research resources and convene an industry group to consider changes in the MLF framework⁷. In response, AEMO undertook a research process with stakeholder engagement and feedback in the development and selection of reform options to be pursued, as further described below⁸.

2.2. Narrative of issue and proposed changes

At the conclusion of the 2024 FLLF methodology consultation, AEMO conducted two open workshops⁹:

⁵ See <https://www.aemo.com.au/consultations/current-and-closed-consultations/consultation-on-forward-looking-transmission-loss-factor-methodology>.

⁶ See https://www.aemo.com.au/-/media/files/electricity/nem/security_and_reliability/loss_factors_and_regional_boundaries/2024---25/mlf-regulatory-discussion-points-register_v10_web.pdf?rev=1bc24df16e5941dfa6951e46b702fca7&sc_lang=en.

⁷ See https://www.aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2024/forward-looking-transmission-loss-factor-methodology/clean-energy-council.pdf?rev=0727bf1a0c614a7e85a234577a0a70d1&sc_lang=en.

⁸ The MLF Framework Review page is at <https://www.aemo.com.au/energy-systems/electricity/national-electricity-market-nem/market-operations/loss-factors-and-regional-boundaries/marginal-loss-factor-framework-review>. Submissions are at <https://www.aemo.com.au/consultations/current-and-closed-consultations/marginal-loss-factor-frameworks-reform-research>.

⁹ Material from these workshops is at <https://www.aemo.com.au/energy-systems/electricity/national-electricity-market-nem/market-operations/loss-factors-and-regional-boundaries/marginal-loss-factor-framework-review>.

- The first workshop tested stakeholders' appetite for change in the MLF frameworks, from incremental to major. Feedback on this question was broadly split with an apparent divergence of views regarding change options.
- At the second workshop, AEMO presented 10 strawman reforms¹⁰, intending to allocate limited research resources towards the most supported two or three.

One potential reform that initially received a high level of interest was time varying MLFs, specifically a day versus night value to more accurately reflect changing dispatch conditions. Research found limited benefit combined with significant rule and market system changes, leading to a finding of no further action. This finding was supported by most submissions.

A less substantial reform composed two parts:

- A small change to the NER clauses overseeing AEMO's MLF methodology to permit AEMO to consider, alongside accuracy, the impact on investors caused by annual changes in MLFs. The research found a form of words that could readily be introduced into the rules and would parallel other parts of the NER where AEMO must develop methodologies within competing principles.
- Subsequent introduction into AEMO's methodology of a side constraint or "glide path" on the amount an MLF can move year on year. AEMO researched the last 10 years of MLF data and found that a glide path could provide material stability benefits at some nodes with immaterial settlement accuracy impact.

This combined reform was studied and recommended for progression in AEMO's research project. It was supported by six out of seven submissions. The final report explains the results in detail and responds to submissions received.

AEMO considers the combined reform will allow market participants to contemplate a "worst case" annual change limit in MLFs which will provide additional investor confidence.

Error in MLF determination impacts the intra-regional settlement surplus, a fund that is paid or recovered from transmission networks who pass it on to their local customers. The proposed rule allows AEMO to intentionally deviate from targeting accuracy to also achieve investment stability. AEMO's glide path research found it is possible to achieve a material stability benefit with immaterial additional error and impact upon the surplus.

After the making of the proposed rule, implementation of a glide path requires AEMO to consult and update its present FLLF methodology. The systems impact of a glide path is minor as it requires only an adjustment to the results of the calculation.

¹⁰ See https://www.aemo.com.au/-/media/files/electricity/nem/security_and_reliability/loss_factors_and_regional_boundaries/2024---25/mlf-change-strawman-list.pdf?rev=0f29a17d6d634d34b03ca15c5662ba76&sc_lang=en.

3. Statement of issue

3.1. Current rules

These NER clauses lay out frameworks for the determination of loss factors:

1. 3.6.1 – inter-regional transmission loss factors,
2. 3.6.2 – intra-regional transmission loss factors (MLFs),
3. 3.6.2A – load and generation data inputs for the calculation of transmission loss factors,
4. 3.6.2B – boundary point loss factors, and
5. 3.6.3 – distribution loss factors.

Items 1-4 are determined by AEMO, while item 5 is determined by the distribution network service provider (DNSP) or the Australian Energy Regulator (AER). For 1-4, AEMO must develop and maintain published methodologies, subject to the rules consultation procedures; see NER 3.6.1(c), 3.6.2(d) and 3.6.2A(b)¹¹.

Each of these methodologies is subject to principles described in NER 3.6.1(d), 3.6.2(e), 3.6.2A(d) and 3.6.2B(c) respectively. Those directly relevant to the calculation of MLFs are:

- 3.6.2(e)(2) An *intra-regional loss factor* must, as closely as is reasonably practicable, describe the average of the *marginal electrical energy losses* for electricity transmitted between a *transmission network connection point* and the *regional reference node* in the same *region* for each *trading interval* of the *financial year* in which the *intra-regional loss factor* applies.
- 3.6.2(e)(2A) *Intra-regional loss factors* must aim to minimise the impact on the *dispatch of scheduled resources* as compared to the *dispatch of scheduled resources* which would result from a fully optimised *central dispatch* process taking into account the effect of losses.
- 3.6.2(e)(5) An *intra-regional loss factor* for a *transmission network connection point* is determined using a volume weighted average of the *marginal loss factors* for the *transmission network connection point*.¹²

¹¹ In practice, AEMO consults and publishes all three methodologies in the one document, Forward-looking Transmission Loss Factors; see https://www.aemo.com.au/-/media/files/electricity/nem/security_and_reliability/loss_factors_and_regional_boundaries/forward-looking-loss-factor-methodology.pdf?rev=76bae3b93ac1435da08f510e63ae8f9b&sc_lang=en.

¹² *Italics* in these quotes indicate a defined NER term.

3.2. Issues with the current rules

These principles oblige AEMO to perform as accurate a calculation as possible and do not permit it to intentionally deviate from accuracy to achieve another virtue, such as stability. A glide path that intentionally reduces accuracy by constraining the volatility of annual MLF movement is inconsistent with these existing NER 3.6.2(e) principles.

In one extreme case, a generator's MLF fell from 1.25 to 0.76 over two years, then recovered to 0.84 over the next two years. Such volatility is possible due to the many assumptions that must be entered into ex-ante annual modelling. AEMO considers it is possible to limit these variations without materially impacting overall dispatch and settlement accuracy.

Feedback at the initiation and draft report stage of the research confirmed that annual variations are a concern to investors. For example, Windlab provided numerical evidence that its own portfolio of wind projects “retained an unhelpful degree of volatility” and said it considered that, as the transition progresses, MLF stability will not be achieved for many years to come¹³.

¹³ See https://www.aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2025/marginal-loss-factor-frameworks-reform-research/submissions/windlab-submission.pdf?rev=5275fc1d1d934b14b47850bb4b6e2f3a&sc_lang=en.

4. How the proposal will address the issues

4.1. How the proposal will address the issues

AEMO proposes the insertion of a competing principle of “investment stability”, which AEMO would consider alongside the existing accuracy principles when developing the FLLF.

Competing principles occur frequently in the NER. For example, the development of participant fee structures under NER 2.11.1(b) requires AEMO to decide within the conflicting principles of simplicity, involvement reflectivity and non-discrimination, having regard to the national electricity objective (NER 2.11.1(a1))¹⁴. Other examples require consideration of commercial stability:

- Participant fee principle NER 2.11.1(b)(2), requiring the recovery of budgeted revenue requirements, includes a sub-principle (i)(C) *AEMO* may take any other action it considers desirable to smooth the impact of actual or anticipated cost variations on the users of a service provided by *AEMO*.
- A consideration for proposed region changes under NER 2A.2.6(b) is the general desirability of a stable region structure for the making of contracting and investment decisions.
- DNSP tariff changes under NER 6.18.5(h) require consideration of the impact on retail customers of changes in tariffs from the previous regulatory year.

Stakeholders’ investment stability concerns relate to intra-regional losses, that is, NER 3.6.2. A new principle inserted in NER 3.6.2(e) would allow implementation of the MLF glide path on the calculation outputs. The principle can also be placed within NER 3.6.2A(d) which sets the principles for the methodology for forecasting and modelling load and generation data to develop inter and intra-regional loss factors, that is, the inputs to the calculation.

If these NER changes are made, AEMO intends to implement the MLF glide path upon the outputs under NER 3.6.2. AEMO has not investigated any proposals to leverage an investment stability principle upon the inputs under NER 3.6.2A.

¹⁴ To demonstrate how AEMO interprets and navigates these conflicting principles, see Appendix A of its Electricity Fee Structures Final Report and Determination, March 2021, at https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2020/electricity-market-participant-fee-structure-review/final-report/aemo-electricity-fee-structure-final-report-and-determination.pdf?la=en.

4.2. AEMO procedure changes – the Glide Path

The proposed rule does not explicitly mention a glide path. The rule instead delegates the mechanism for achieving investor stability to the FLLF methodology, consistent with the existing responsibility allocation between the NER and loss factor methodologies. This allows the glide path's design and parameters to evolve over time within the FLLF methodology.

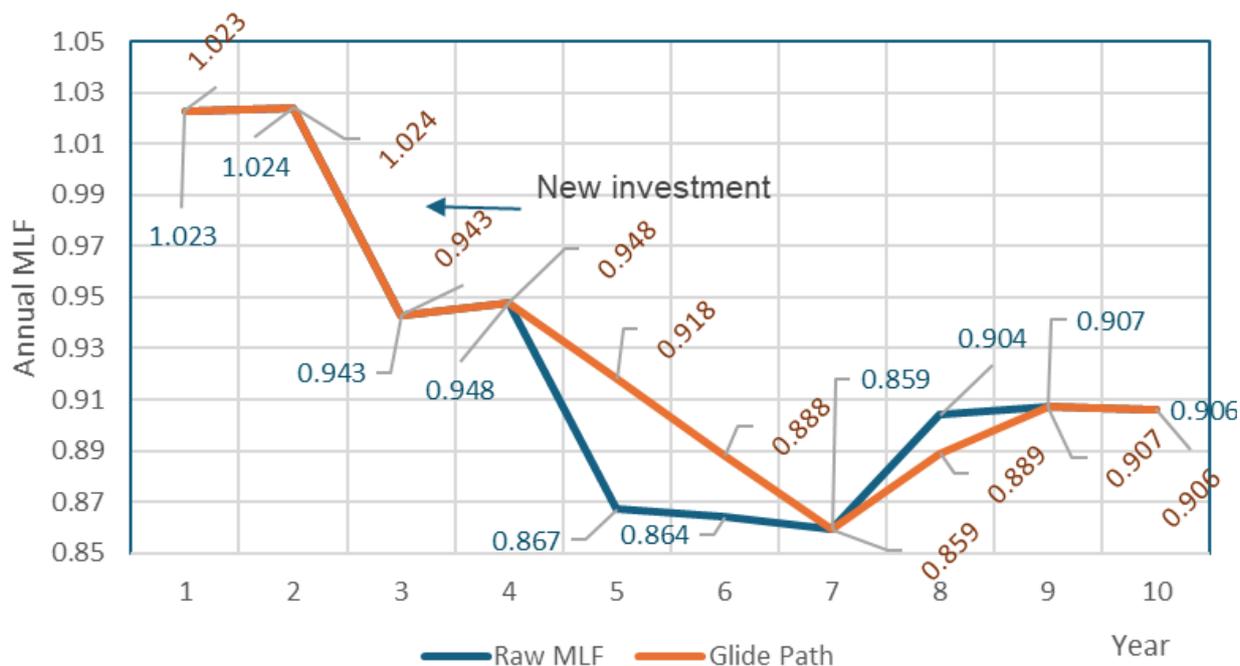
If the rule is made, AEMO intends to develop a glide path mechanism within the FLLF methodology. The purpose of describing it below is to explain the expected benefit of the making of the rule.

A glide path would provide a degree of short- to medium-term grandfathering in annual published MLFs. An existing transmission connection point's published MLF would be constrained to no more than +/-X from the year before. Meanwhile, the unconstrained calculated MLF would also be published, and, assuming otherwise stable power system conditions, the official MLF would, over some years, move to the unconstrained value. Consistent with the concept of grandfathering, where new investment is added to an existing connection point with a previously published MLF, the constraint would be relaxed for the first year after commissioning.

Figure 1 shows a worked hypothetical example of applying a glide path to an existing connection point:

- In year 3 a substantial generator is commissioned at an existing connection point. The causes a large fall in MLF. Being a new investment, the fall is unconstrained by the glide path.
- In year 5 another large fall occurs, likely due to the nearby connection of another generator, however this fall is limited to X in any year, in this case 0.03.
- Physical conditions stabilise until year 7, so the published MLFs in years 6 and 7 progressively decline until they reach the unconstrained value.
- In year 8 new network investment has resulted in a large rise in MLF. As X is applied symmetrically, in this case the rate of change up is slowed.

Figure 1 Worked example of glide path, $X=\pm 0.03$ – investment in year 3



The glide path is intended to moderately improve investment stability in the short to medium term. Investors would be able to consider a “worst-case” value for the next year or two. It will not, and is not intended to, provide:

- grandfathering of new entrants where they are connecting to and substantially changing the loss characteristic of an existing node (it remains a policy intent for the entrant to forecast the initial raw MLF in their locational decision), nor
- permanent grandfathering – like a side constraint, over time the glide path will catch up to the underlying conditions, which may deteriorate over the life of an asset.

A glide path intentionally deviates from accuracy in MLFs, with the following implications:

- potentially affected dispatch – for example, if one generator is bidding (at its node) a price 1% above a competitor, but its MLF, due to a glide path, is 2% higher than that competitor, their merit-order dispatch will be inefficiently reversed,
- as the glide path grandfathers only incumbent assets, new entrants may have an observably different MLF than a neighbouring incumbent for a few years, and
- marginal impact on the intra-regional settlement residue that is passed to transmission network service providers (TNSPs) and then to customers. In the case of Figure 1, this residue would be marginally reduced during years 5 and 6 because of under-accounting for this generator’s MLF and, in year 8, the residue would be marginally increased. Section 4.2.2 discusses the research’s findings of the relatively small size of this effect.

With competing stability and accuracy principles in the NER, it would be AEMO's task to determine within the FLLF methodology a value of X that appropriately balances the up and down sides, which each become stronger with a smaller number. This investigation has reviewed revenue changes due to historical MLF volatility to inform an initial view as to where X may sit.

4.2.1. New builds

The intent of the glide path is to smooth the impact of exogenous events on a node's MLF, that is, a form of grandfathering. It would be inconsistent with the reform to apply calculation constraints for new investments, so a change constraint would not be applied in the first year following significant new investment at an existing node.

In many cases a new investment is associated with the creation of a new connection point node for MLF. In the data below, new nodes were excluded for their first two years of existence. Commissioning would need to be complete before the glide path was applied to subsequent years.

Where significant investment change occurs at an existing node, the glide path would be relaxed for the subsequent year. This would include brownfield expansions, installation of a large storage, and closures. The methodology would need to consult on thresholds as to what "significant" means – for example, a given percentage change in installed capacity.

4.2.2. Glide path research results

AEMO has not undertaken market modelling, but in **Table 1** presents the total changes in the last 10 years of generator revenue versus total turnover had an X of +/-0.03 been applied.

Table 1 shows that MLF volatility has impacted overall generator revenue by around 0.7%¹⁵. If a glide path with X= +/-0.03 is used, this would be reduced by about 10% of that. Meanwhile, the impact on NEM-wide revenue of the glide path would be 0.06% – that is, the impact on customer settlement accuracy would be about six in 10,000. The latter could be considered the amount of gross¹⁶ error that the glide path introduces into the overall market.

This would suggest that an X of +/-0.03 will have no material impact on the overall accuracy of market settlement. This inaccuracy will emerge in the intra-regional settlement residue which is funded to TNSPs and then onto customers.

¹⁵ Note this is the gross absolute impact of volatility – favourable movements are added to unfavourable.

¹⁶ Note this "gross" error is the sum of absolute impacts. A symmetrical glide path would produce counteracting favourable and unfavourable effects that would sum to a lower net error.

Table 1 Impact of X=+/-0.03 on individual and total NEM outcomes – CP data

Region	10-year total generator revenue of CP set	Delta MLF times revenue (absolute, no glide path)	Percent of Delta MLF impact of total revenue	Impact of glide path on revenue (absolute)	Percent impact of glide path on total NEM revenue
New South Wales	\$61,970 M	\$319.0 M	0.515%	\$53.74 M	0.087%
Queensland	\$50,750 M	\$484.0 M	0.954%	\$14.68 M	0.029%
South Australia	\$8,383 M	\$44.9 M	0.536%	\$6.66 M	0.079%
Tasmania	\$8,238 M	\$80.6 M	0.978%	\$1.43 M	0.017%
Victoria	\$37,400 M	\$209.9 M	0.561%	\$18.27 M	0.049%
NEM total	\$166,741 M	\$1138.4 M	0.683%	\$94.78 M	0.057%

Note: the term “CP” refers to Connection Point data which is a generator subset of the full set of MLF nodes. This is explained in more detail in the final report.

FLLF methodology consultations can repeat this analysis with more X values.

4.2.3. Implementation

AEMO’s implementation of a glide path would involve the following steps:

- The FLLF methodology would require changes to describe the truncation process, the value of X and the rules for entrant exemptions.
- Raw (untruncated) MLF values would be calculated in the same manner as presently and would continue to be provided as unofficial values within existing documents.
- Glide path (truncated) MLF values would be presented as official MLFs within existing documents. These would be then applied in AEMO’s systems, including dispatch and settlement. As the official MLFs, these truncated values would be expected to be similarly adopted in Clean Energy Regulator processes and in existing industry contracts that reference MLFs.

4.3. Stakeholder engagement

The process leading up to this rule change has had extensive stakeholder engagement with generation developers, existing generators and retailers, customer and network representatives.

Following suggestions received during the 2024 FLLF methodology consultation¹⁷, AEMO conducted two open stakeholder forums (November 2024 and January 2025)¹⁸ and used a voting process to prioritise research resources into three potential strawmen reforms.

¹⁷ See https://www.aemo.com.au/-/media/files/electricity/nem/security_and_reliability/loss_factors_and_regional_boundaries/2024---25/mlf-regulatory-discussion-points-register_v10_web.pdf?rev=1bc24df16e5941dfa6951e46b702fca7&sc_lang=en.

¹⁸ Material from these workshops is at <https://www.aemo.com.au/energy-systems/electricity/national-electricity-market-nem/market-operations/loss-factors-and-regional-boundaries/marginal-loss-factor-framework-review>.

Research into these reforms was conducted, recommending two linked reforms; this proposed rule change followed by a MLF glide path to be included in AEMO's FLLF methodology. Results were documented in the draft report published in November 2025¹⁹. That month, a two-hour public forum was held with approximately 20 stakeholder representatives. Seven published submissions were received by December 2025. All the points raised in the submissions were responded to in the final report published in February 2026²⁰. Six out of seven submissions supported moving ahead with the two linked reforms and AEMO reaffirmed its draft report recommendations in the final report.

The form of words proposed in this rule change is unchanged from that presented in AEMO's draft and final reports. The draft report also sought views on whether AEMO should request the AEMC to conduct a fast-track single round consultation. AEMO received one submission in favour, saying that AEMO's consultation was adequate. One was opposed, saying it is sufficiently significant and technical to warrant two stages – however it appears that this opposing view related to AEMO's subsequent consultation of the glide path through the FLLF methodology, which AEMO agrees should be conducted in two stages under the standard rules consultation procedure prescribed in the NER.

¹⁹ See <https://www.aemo.com.au/consultations/current-and-closed-consultations/marginal-loss-factor-frameworks-reform-research>.

²⁰ See sections 2.1.3, 2.2.7, 3.7 and 4 of https://www.aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2025/marginal-loss-factor-frameworks-reform-research/final/mlf-framework-reform-final-report.pdf?rev=d33dfe670c0d472ead0b55e7a49959fd&sc_lang=en.

5. Proposed rule

5.1. Description of the proposed rule

AEMO proposes an additional “investment stability” principle to guide the methodology for calculating MLFs, in the following NER clauses:

1. In 3.6.2(e):
 - a. Delete from (2) the words “as closely as reasonably practicable” to enable the existing words requiring accuracy to be considered alongside other principles.
 - b. Add “(2B) *Intra-regional loss factors* must aim to minimise adverse impacts on investment stability arising from variations”. This is the new principle that will facilitate mechanisms that appropriately balance accuracy with certainty.
 - c. Amend (5) to replace “determined using” with “derived from” [a volume weighted average of the *marginal loss factors*...]. This is to remove doubt that post averaging smoothing is permissible.
2. In 3.6.2A(d)(1), which describes the principles for forecast load and generation data used in the MLF calculation, add “(iv) the aim of minimising adverse impacts on investment stability arising from variations”.

5.2. Minor/consequential rule changes

AEMO considers there are no consequential rule changes required.

5.3. Transitional matters

AEMO considers there are no transitional matters, as the rule will be effective to guide AEMO’s decision-making when it next updates the FLLF methodology. It can be made effective at the AEMC’s earliest convenience.

6. How the proposed rule contributes to the national electricity objective (NEO)

The proposed rule allows AEMO, when developing its intra-regional loss factor calculation methodology, to consider, alongside the existing principles towards maximising accuracy, a principle of minimising the adverse impacts upon investment stability due to variations.

If the rule is made, it would permit AEMO, following a FLLF methodology consultation, to introduce a glide path limit on annual MLF changes for existing nodes (that had not experienced major investment in the relevant year). AEMO considers that, by smoothing out dramatic annual changes in MLF on existing assets, the risk of investing in generation and storage will be reduced.

MLF volatility risk is highest for large-scale renewables that tends to locate in high resistance and rapidly evolving parts of the grid. Their electricity revenues and renewable energy certificates are adjusted by MLFs. As the NEM requires large growth in this generation for the transition, any fall in its perceived investment risk will lower one of the NEM's largest capital costs, which is in the long-term interests of consumers.

By lowering the perceived risk of investing in large-scale renewable generators, the renewable share can increase more rapidly, furthering the environmental objective.

AEMO will maintain MLF transparency by publishing both the constrained and unconstrained MLF calculations.

7. Expected benefits and costs of the proposed rule

In the previous section, AEMO described the benefits of the rule change through reducing the perceived risk of investment in renewable energy which is in the long-term interests of customers with respect to price, and in the interest of the emissions reduction objective. Perceived risk is an inherently qualitative concept, confirmed by supportive commentary and submissions received through the research project from firms actively involved in renewable investment.

The direct implementation costs are low and the required research largely complete.

The potential detriment of the rule is an increased error due to varying from an MLF that is calculated purely with an accuracy principle. This could manifest in two ways:

- a potentially marginally less efficient dispatch where two competing generators could have a reversed merit order if the glide path resulted in a reversal of offer prices referred to the RRN, and
- the intra-regional surplus being unfavourably affected where the glide path provides, on average, a favourable MLF result to generators. This surplus is ultimately provided to customers.

In Section 4, AEMO presented the results of its research which concluded that these detriments are immaterial for an X of 0.03, although they would increase at smaller values of X. This value will be set by AEMO in its FLLF methodology. The competing nature of the accuracy versus stability principle will require AEMO to carefully trade off these detriments against the stability benefit.

8. Draft rule

As explained in more detail in Section 5, AEMO requests the following NER amendments:

1. In 3.6.2(e):
 - a. Delete from 3.6.2(e)(2) the words “as closely as reasonably practicable”.
 - b. Add to 3.6.2(e)(2) a new paragraph “(2B) *Intra-regional loss factors* must aim to minimise adverse impacts on investment stability arising from variations”.
 - c. Amend 3.6.2(e)(5) replacing “determined using” with “derived from”
2. In 3.6.2A(d)(1), add a new paragraph “(iv) the aim of minimising adverse impacts on investment stability arising from variations”.