

K Processes for determining the Reliability Standard and Reliability Settings - Two alternate models

In Chapter 8 we summarised two alternate models for specifying the processes for determining the Reliability Standard and Reliability Settings. This appendix provides a more detailed explanation of each model and the reasoning for the features of each model.

Table A.1 Model 1

We outline the key features of Model 2 in the table below.

	Reliability Element	Responsible Body	Reasoning
1	<p>Reliability Standard</p> <p>Set at 0.002% USE initially.</p> <p>Reviewed and amended when found not to reflect the level of reliability valued by consumers. This would be flagged by a divergence between the MPC and VCR for residential consumers, and the new Reliability Standard would be determined by detailed analysis. The Reliability Standard would be reviewed every 5-years just prior to the review of the reliability settings, and there would be a 2-year notice period before taking effect.</p> <p>High level guidance to be included in the Rules to guide the setting of the Reliability Standard, including an explicit requirement for the Reliability Standard to reflect the level of reliability valued by consumers. This high level guidance would be submitted to the AEMC by the MCE as a Rule change proposal. The methodology for setting the Reliability Standard and comparing the VCR and MPC would be consulted on prior to the review of the Reliability Standard and Reliability Settings.</p> <p>The Reliability Standard would be specified and given effect in a schedule referred to in the Rules. An explicit Rule requirement would oblige the AEMC to consult the Reliability Panel (in addition to other stakeholders). The schedule would be maintained by the AEMC and amended only every 5 years</p>	AEMC	<ol style="list-style-type: none"> 1. By only reviewing the Reliability Standard every 5-years the Reliability Standard would remain relatively stable to provide investor certainty. 2. High level Rules based guidance to guide the setting of the Reliability Standard would provide greater certainty to market participants. Incorporating an explicit Rule requirement for the Reliability Standard to reflect the level of reliability valued by consumers would ensure that the Reliability Standard reflects community expectations. The Rule change to implement this provision would be submitted by the MCE to give the MCE a role in setting high level policy for the Reliability Standard. 3. Developing a methodology for determining the Reliability Standard before a review commences would provide industry greater confidence in the outcome of that review. Ideally this methodology would not change substantially between each 5-yearly review. This would allow industry to make its own assessment between reviews of whether the Reliability Standard is likely to change at the next review. 4. Specifying the Reliability Standard in a schedule

	Reliability Element	Responsible Body	Reasoning
	unless the AEMC considered that a material change in circumstances necessitated a change to the schedule within 5 years.		<p>avoids the need for a Rule change proponent to submit a Rule change proposal for the AEMC to make changes to the Reliability Standard. This would streamline the process for amending the Reliability Standard as the AEMC would not need to rely on another party to submit a Rule change proposal following its review to implement a change. Placing constraints on changing the schedule, such as only every 5-years and by following the Rule change process would ensure that stakeholders maintain confidence in the process.</p> <p>5. Discussion on the suitability of the AEMC's role in setting the Reliability Standard, and the Rule requirement to consult with the Reliability Panel is contained in Chapter 7.</p>
2	<p>Reliability Settings</p> <p>Determined by supply side modelling (such as the current methodology for setting the Reliability Settings) to deliver sufficient investment in new generation such that there is an expectation that the Reliability Standard would be satisfied.</p> <p>Determined every 5 years with a 2-year lead time for any change and would include annual indexing. Could be amended within this 5-year window only if the AEMC could demonstrate that there has been a significant change to the investment environment.</p>	AEMC	<p>1. Supply side modelling is less subjective than demand side modelling (as proposed in Model 2). Reliability Settings based on supply side modelling could be more predictable for investors than Reliability Settings based on demand side modelling.</p> <p>2. Setting the Reliability Settings for a period of 5 years would provide investors and participants with greater certainty than the current 2 + 2¹ arrangement. This timeframe would also enable the previous change to the Reliability Settings to be considered in the review (unlike the current 2</p>

¹ That is 2 years between reviews and a 2 year lead-time for a revised MPC to taken effect.

	Reliability Element	Responsible Body	Reasoning
	<p>The methodology and assumptions to be used in determining the Reliability Settings and the method of indexing would be determined before each review of Reliability Settings commenced.</p> <p>The Reliability Settings and the method of indexing would be specified and given effect in a schedule referred to in the Rules. This would be the same schedule as the Reliability Standard is specified in. An explicit Rule requirement would oblige the AEMC to consult the Reliability Panel (in addition to other stakeholders).</p>		<p>+ 2 timeframe where the Reliability Settings are reviewed before the previous change to the Reliability Settings has taken effect). Indexing would ensure that the Reliability Settings stay approximately correct. With effective indexing, it is feasible that the review period could be extended beyond 5 years.</p> <p>3. Developing the methodology and assumptions before a review commences would provide industry greater confidence in the outcome of that review.</p> <p>4. Specifying the Reliability Settings in a schedule would avoid the need for a Rule change proponent to submit a Rule change proposal for the AEMC to make changes to the Reliability Settings. This would streamline the process for amending the Reliability Settings as the AEMC would not need to rely on another party to submit a Rule change proposal following its review to implement a change.</p> <p>5. Discussion on the suitability of the AEMC's role in setting the Reliability Settings, and the Rule requirement to consult with the Reliability Panel is contained in Chapter 7.</p>
3	<p>VCR test</p> <p>The VCR is developed by AEMO for its transmission planning role. Guidelines would be developed by AEMO covering the development of the VCR.</p>	<p>VCR determined by AEMO.</p> <p>VCR test carried out by AEMC.</p>	<p>1. Testing the MPC against the VCR and linking the Reliability Standard to the VCR would ensure that the level of reliability planned for the generation sector reflects the level of reliability valued by customers.</p>

Reliability Element	Responsible Body	Reasoning
<p>The MPC would be compared to the VCR for residential consumers every 5 years to test consistency. If the MPC was found to be inconsistent with the VCR, the AEMC would investigate the reasons for this divergence. If it was found that this was because the Reliability Standard no longer reflected the value customers place on reliability, then the AEMC would amend the Reliability Standard accordingly.</p> <p>The process of comparing the MPC with the VCR would be undertaken as the first step of the review of the Reliability Standard.</p>		<ol style="list-style-type: none"> 2. VCR is the only method of ensuring that reliability is valued consistently across the supply chain. 3. Testing the MPC against the VCR would ensure that the level of reliability planned for in the generation sector is consistent²with that planned for at other stages of the supply chain, and that valued by end-users. 4. The VCR test would flag a potential problem. A detailed investigation would then be required to determine whether a divergence in planned reliability between sectors has in fact taken place. There could be good reason for a divergence between the MPC and VCR, such as to reflect different investment conditions between the regulated network sector and competitive generation sector. 5. As discussed in Chapter 4, it is the residential consumer class that is most impacted by reliability events in the generation sector, therefore it is appropriate that the MPC be compared to the VCR determined for residential consumers.

² VCR is currently used explicitly in transmission planning in Victoria and is used implicitly in transmission planning in other regions (VCR is implied in the deterministic reliability standards that apply in other region's transmission planning regimes). VCR is also used for some distribution planning. Our recommendations to the MCE for a nationally consistent framework for transmission reliability standards would see a consistent VCR used to derive reliability standards in all regions. Therefore using the same VCR for setting the level of reliability in the generation sector would ensure consistency across the supply chain.

	Reliability Element	Responsible Body	Reasoning
4	<p>MRLs and reliability safety net provisions</p> <p>MRLs and reliability safety net provisions would be developed for operational purposes.</p> <p>The Rules would require AEMO to develop guidelines in accordance with the Rules consultation procedures covering the development of MRLs.</p>	AEMO	<ol style="list-style-type: none"> 1. Appropriate for AEMO to set these items because they are all operational in nature. 2. Guidelines would provide participants greater certainty in the outcomes AEMO determines for these items

Table A.2 Model 2

We outline the key features of Model 2 in the table below.

	Reliability Element	Responsible Body	Reasoning
1	<p>VCR guidelines</p> <p>Guidelines including methodology covering the development of the VCR. Developed in accordance with the Rules consultation procedures.</p>	AEMC	<ol style="list-style-type: none"> Guidelines and methodology would provide investors certainty in relation to how the VCR would be determined. Developing guidelines in a transparent and consultative process would allow for the most comprehensive set of guidelines possible, thus further enhancing investor certainty.
2	<p>VCR</p> <p>Calculated every 5 years. A method of annual indexing also determined.</p> <p>Developed in accordance with the Rules consultation procedures.</p> <p>Applied consistently across the supply chain, but with varying weightings applying for each class of consumer (i.e. 100% weighting on residential for generation sector).</p>	AEMC	<ol style="list-style-type: none"> VCR is the only method of ensuring that reliability is valued consistently across the supply chain. Setting VCR for 5 years (with indexing) would provide investors greater pricing certainty. The VCR is a key reliability parameter in this model, and as such should be determined by the AEMC to be consistent with the governance recommendations in Chapter 7. It would also be appropriate for TNSPs and DNSPs to use the same VCR (with appropriate weights) for network planning.
3	<p>Reliability Settings</p>	AEMC	<ol style="list-style-type: none"> Only the residential component of the VCR is relevant to the MPC because when a shortfall in

	Reliability Element	Responsible Body	Reasoning
	<p>Determined using the VCR residential as a basis. Theoretically the MPC should equal the VCR residential. However other factors would be taken into account (supply side forces, NEM risk, investor certainty etc).</p> <p>Determined every 5 years with a 2-year lead time for any change and would include annual indexing. Could be amended within this 5 year window only if the AEMC could demonstrate that there has been a significant change in conditions.</p> <p>The methodology and assumptions to be used in determining the Reliability Settings would be determined before a review of the Reliability Settings commenced.</p> <p>The Reliability Settings would be specified in a schedule.</p>		<p>generation occurs, the residential sector (which values reliability least) is generally interrupted first.</p> <p>2. Taking factors other than the VCR into account in setting the MPC would give participants confidence that the MPC would not be set to a level that would threaten the stability or efficiency of the NEM. An example might include if VCR lowered due to an economic downturn, the MPC should not be lower in line with the VCR because this would create investor uncertainty. However VCR residential has been relative stable since 2002.</p> <p>3. Setting the MPC for a period of 5 years would provide investors and participants with greater certainty than the current 2 + 2 arrangement. Indexing would ensure that the MPC stays at approximately an appropriate level.</p> <p>4. Developing the methodology and assumptions before a review commences would provide industry greater confidence in the outcome of that review. This may also improve the quality of the stakeholder submissions.</p> <p>5. Specifying the Reliability Settings in a schedule would avoid the need for a Rule change to amend the settings.</p>
4	<p>Reliability Standard, MRLs, reliability safety net provisions</p> <p>The Reliability Standard, MRLs and reliability safety net</p>	AEMO	<p>1. Appropriate for AEMO to set these items because they are all operational in nature.</p>

Reliability Element	Responsible Body	Reasoning
<p>provisions would be developed for operational purposes.</p> <p>Developed in accordance with the Rules consultation procedures. Guidelines to be developed for setting the Reliability Standard and MRLs.</p> <p>Guidelines to be developed in accordance with the Rules consultation procedures.</p>		<p>2. Guidelines would provide participants greater certainty in the outcomes AEMO determines for these items.</p> <p>3. The supply side assumptions, such as generator costs, would be minimal and consistent with the assumptions AEMO makes when it performs national transmission planning.</p>