



Consultation document

Ancillary Services Procurement Plan Emergency Reserve Update

7 September 2026

Submissions close: 25 September 2026, 5pm

Cross-submissions close: 2 October 2026, 5pm

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1 Executive Summary

1. Transpower, in its role as System Operator, is consulting on its proposal to amend the Ancillary Services Procurement Plan in order to implement Emergency Reserve as a new ancillary service. The Procurement Plan sets out the processes the System Operator must use reasonable endeavours to follow when it procures ancillary services.
2. Emergency Reserve is intended to provide an additional operational tool for the System Operator to help reduce the likelihood and extent of involuntary load shedding during grid emergencies. The Authority has amended the Electricity Industry Participation Code (the Code) to establish Emergency Reserve and has identified matters that need to be reflected in the Procurement Plan. The proposed amendments are intended to give effect to the Code changes, implementing the new ancillary service in a practical and proportionate way.
3. The proposed amendments cover forecasting, tendering, pre-contract technical review, onboarding, pre-activation and activation processes, reporting by the System Operator, assessing performance, and payment structures.
4. Emergency Reserve is being implemented within a compressed timeframe for winter 2027. In agreement with the Authority, the System Operator is applying a minimum viable product approach. The Procurement Plan amendments reflect a balance of providing enough certainty for potential providers while also allowing the System Operator flexibility to refine detailed settings over time as operational experience and industry capability develop.
5. Forecasting will be carried out in early 2027 to assess whether Emergency Reserve should be procured for winter 2027 and to determine the relevant call period, procurement quantity, and pre-activation and activation trigger settings.
6. The System Operator proposes a high trust approach to pre-contract review and performance monitoring. Under this approach, ancillary service agents would self-certify that they can meet the relevant performance requirements and would self-assess performance following events. This is intended to reduce implementation complexity and support participation, while retaining accountability through testing, reporting requirements, potential audit, and financial consequences for non-performance.
7. The proposed fee framework allows for availability fees, pre-activation event fees and activation event fees. The System Operator is not required to offer all fee types in a given procurement round. For year 1, the current view is that both availability and event fees should be offered.
8. The System Operator is seeking feedback on the proposed amendments to the Procurement Plan. We have included with the consultation a track-change version of the Procurement Plan with our proposed changes.
9. The consultation period runs for 3 weeks with submissions due by 5pm on 25 September 2026, followed by a one-week cross-submission period closing on 2 October 2026. Submissions should be sent to system.operator@transpower.co.nz.

2 Purpose and timeline of this consultation

10. The purpose of this consultation is to seek feedback on updates to the Ancillary Services Procurement Plan, that is incorporated by reference in the Electricity Industry Participant Code 2010 (the Code) under clause 8.42.
11. In January 2026 the Authority decided to establish Emergency Reserve as a new ancillary service¹. The Authority's Emergency Reserve Code amendments came into force on 1 March 2026. In addition to the Code amendment the Authority's Emergency Reserve decision paper laid out aspects of the scheme that would need to be reflected in the Procurement Plan.
12. To give effect to the Authority's decision to establish Emergency Reserve as an ancillary service the System Operator must amend the Procurement Plan. Some of the proposed changes to the Procurement Plan are effectively 'mandatory', for example adding Emergency Reserve to the list of ancillary services the System Operator may purchase, while others reflect the System Operator's implementation preferences for aspects of Emergency Reserve, for example 'high trust' self-certification performance monitoring.
13. To inform the System Operator's design of the Emergency Reserve ancillary service, the System Operator held a series of co-design workshops to gather input from industry stakeholders. Information about these workshops, including slides and minutes, can be found on our website². Stakeholder perspectives from these workshops have helped inform the suggested changes to the Procurement Plan.
14. Not all aspects of the Emergency Reserve are included in changes to the Procurement Plan. This consultation paper includes identification of aspects which will be advised via subsequent documentation or processes, for example inclusion in the Emergency Reserve tender documentation.

2.1 What is the Procurement Plan

15. The Procurement Plan sets out the mechanisms we use for procuring ancillary services, as well as the technical requirements and key contractual terms applying to each service.³ The System Operator is required to use reasonable endeavours to both implement and comply with the Procurement Plan.
16. We procure ancillary services to support the reliable operation of the power system and assist us to meet our Principal Performance Obligations (PPOs) specified in the clauses 7.2A to 7.2D of the Code.
17. The content of the Procurement Plan is laid out in clause 8.43 of the Code.

¹ [Emergency reserve scheme decision paper](#)

² [Emergency Reserve scheme | Transpower](#)

³ [About Ancillary Services | Transpower](#)

2.2 Requirements for amendment of the Procurement Plan

18. We must submit any proposed amendments to the Procurement Plan to the Authority for approval (clauses 7.13 of the Code). The requirements for proposals to amend or replace system operation documents are contained in clauses 7.13-7.22 of the Code.
19. The Authority must consent to the consultation before the System Operator can consult on a proposal to amend a system operation document (clause 7.16) which has been granted.
20. We are required to consult “with affected participants or persons that represent the interests of those persons likely to be affected by the proposed amendment” before submitting the proposed amendments to the Authority (clause 7.20 of the Code).
21. Before the Authority can amend the Code to incorporate the proposed amendments to the Procurement Plan, it may need to consult. It will not need to consult if it is satisfied on reasonable grounds that: (a) the nature of the amendment is technical and non-controversial, or (b) there is widespread support for the amendment among the people likely to be affected by it, or (c) there has been adequate prior consultation (for instance, by or through an advisory group) so that all relevant views have been considered (section 39 of the Electricity Industry Act 2010 (Act)).

2.3 Feedback sought

22. This consultation is focussed on the proposed amendments to the Procurement Plan. The aspects of the Emergency Reserve Ancillary Service (ERAS) implemented in the Code are outside the scope of this consultation.
23. We have included a Word document, for the convenience of submitters, which incorporates all the questions contained in the consultation paper. You can use this for your submission if you would like. We have also included a Word document version of the Procurement Plan with proposed amendments track-changed which can be used to mark up changes submitters may wish to recommend (if any).

2.4 Consultation period

24. The consultation period is 3 weeks commencing 7 September 2026. Submissions are due by 5pm on 25 September 2026. This will be followed by a 1-week period for cross-submissions. Cross-submissions are due by 5pm on 2 October 2026.
25. Please send submissions and cross-submissions to system.operator@transpower.co.nz. We will acknowledge receipt of all submissions and cross-submissions.
26. Submissions and cross-submissions will be published on [our website](#).
27. If your submission or cross-submission contains confidential material, please ensure this is clearly identified and provide a version of your submission or cross-submission that can be published.
28. Please note that all information provided to Transpower is subject to potential disclosure under the Official Information Act 1982.



29. If you have any questions about this consultation, please send them to system.operator@transpower.co.nz. Your questions and our responses to them will be published on our website for reference by other submitters and stakeholders.

2.5 Next steps

30. We will review all submissions and cross-submissions, and prepare a summary and response to submissions document, and a revised (if applicable) draft Procurement Plan.
31. We are aiming to submit proposed amendments to the Electricity Authority (Authority) by no later than 30 October 2026 for approval.
32. Once we have provided it to the Authority we will publish our final Procurement Plan proposal.
33. Clause 7.21 of the Code sets out the requirements for the information the System Operator must provide to the Authority.
34. After receipt of the proposal, the Authority may: (a) approve the proposed amendments; or (b) require the System Operator to conduct further consultation before re-submitting the proposed amendments to the Authority for approval; or (c) decline to approve the proposed amendments (clause 7.21(2)).
35. Related changes to the Policy Statement will undergo a separate consultation process in early 2027.

3 Background on Emergency Reserve

36. A brief overview of Emergency Reserve is given in this section for the convenience of readers. More fulsome details of the design of Emergency Reserve are contained within the Authority's decision paper⁴ (particularly Table 1) and consultation paper⁵.
37. The Authority's primary objective for Emergency Reserve is to "promote system security and reliability and minimise the likelihood and extent of uneconomic load shedding during infrequent periods when demand is high and inadequate supply is available from other sources."
38. Consequently, Emergency Reserve is designed to operate in a grid emergency as a 'penultimate resource' between the use of controllable load and instructed load-shedding. In line with this role the Authority has signalled an expectation the costs of Emergency Reserve should be less than the Value of Lost Load (VoLL).
39. However, Emergency Reserve is not a 24/7/365 product. To procure Emergency Reserve the System Operator must first complete an assessment of the need for Emergency Reserve in a given time horizon.
40. If the System Operator's assessment of the need for Emergency Reserve indicates it is needed, then the System Operator must undergo a tender process to procure Emergency Reserve to meet the identified need. Each tender of Emergency Reserve is discrete.
41. In the Code amendment made by the Authority to implement Emergency Reserve eligibility criteria, fee frameworks, and the cost allocation methodology have been set.
42. Additionally, the Emergency Reserve Code amendment defines the concept of pre-activation ("..the process of issuing instructions or notifications to providers of emergency reserve to prepare for the use of emergency reserve....") and activation ("..the process of issuing instructions or notifications to providers of emergency reserve for the use of emergency reserve in real time...") of Emergency Reserve. Along with related definitions to detail these concepts within the Emergency Reserve fee framework and cost allocation.
43. The Authority also contained within their decision paper the ability for the System Operator to make pragmatic decisions to enable standing up Emergency Reserve to reflect the delivery timeframes set by the Authority and a learn as you go approach.
44. Included in the Authority's expectations for delivery of Emergency Reserve is a secondary objective to "build consumer capability to provide demand flexibility more generally, through organisational capability and investments in equipment."

3.1 Year 1 Implementation

45. Emergency Reserve is a new ancillary service and the deadline for implementation is winter 2027. To set up the service within this timeframe, a pragmatic approach which reflects both the Authority's primary objective and secondary objective will be taken by the System Operator for year 1 delivery of Emergency Reserve.

⁴ [Emergency reserve scheme: Code amendment decision paper](#)

⁵ [Emergency reserve scheme: Code amendment proposal consultation paper](#)

46. We expect that there will be learnings from the first year of operation of the scheme. Therefore, we have maintained some flexibility in the Procurement Plan, to allow us to accommodate improvements to the scheme over time, while minimising the administrative burden involved in updating Procurement Plan.
47. We considered having more prescriptive requirements in the Procurement Plan, to reflect the year 1 settings without flexibility for future years. This would increase the administrative cost of the scheme but would mean more rigorous feedback processes due to the public consultation required to make Procurement Plan changes. We have aimed to take a balanced approach, maintaining some flexibility in the Procurement Plan, but with enough detail to give clarity to potential providers. Those details of Emergency Reserve implementation not specified in the Procurement Plan will be specified in the Emergency Reserve tender documentation and ancillary services procurement contracts. These will be published at the commencement of the first tender, provisionally scheduled for late January 2027.
48. Throughout this document, we highlight areas of flexibility in the Procurement Plan. Where known, we also describe the "year 1" settings, although we note that some settings will be determined in early 2027 prior to tendering, particularly settings that may be influenced by the outcome of the forecasting exercise.

3.2 Overview of operation of Emergency Reserve

49. The diagram below shows the operational steps chronologically for Emergency Reserve. This consultation document details the proposed changes to the procurement plan to incorporate these activities.

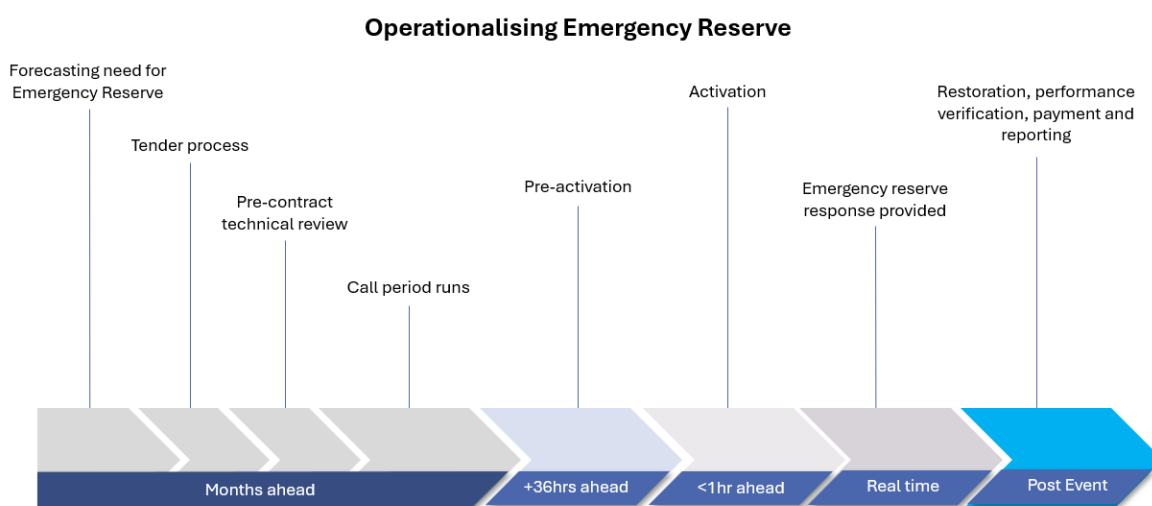


Figure 1. Operationalising Emergency Reserve

50. The table below shows more detail on timeframes and the parties responsible at each stage.

Table 1. Timeframes and parties

Action or step	Timeframe	Party
Forecast need for emergency reserve	Annually. First round will be in early 2027	System Operator
Tender process	As required considering requirement to complete pre-contract reviews of providers prior to start of call period ⁶ determined at forecasting For year 1 the tender is expected to open in early-mid 2027	System Operator
Pre-contract technical review	Between end of tender period and contract signing	System Operator, ancillary service agents
Call period – the time when Emergency Reserve is ‘live’	Maximum of 6-month duration	System Operator, ancillary service agents
Pre-activation	Up to 36hrs ahead of real-time	System Operator, ancillary service agents
Activation	Up to 1 hr ahead of real-time	System Operator, ancillary service agents
Emergency Reserve response	Real-time	Ancillary service agents
Restoration	Real-time	System Operator, ancillary service agents
Performance assessment	Post-event	Ancillary service agents, System Operator
Emergency Reserve payments	Monthly in arrears (the normal market settlement cycle)	System Operator, Clearing Manager
Publish information about Emergency Reserve following events	Per Code clause 8.54BA	System Operator
System Operator reporting to the Authority	Monthly	System Operator

⁶ The timeframe for which a need for Emergency Reserve has been identified and for which Emergency Reserve has been tendered/procured. This is effectively equivalent to the Code definition of “emergency reserve pre-event trading period”.

4 Proposed amendments to the Procurement Plan

51. Amendments to the Procurement Plan to implement Emergency Reserve are required in the following sections of the Procurement Plan:
 - Ancillary Services to Purchase
 - Principles applied in net purchase quantity assessments
 - Methodologies for net purchase quantity assessments
 - System Operator reporting to the Authority
 - Appendix A – Bases for procuring ancillary services
 - Appendix B – Key technical requirements for ancillary services
 - Appendix D – Glossary of terms
52. The changes to, and reasoning for the changes, are detailed in the rest of this section of this consultation paper. These are structured in the order in which they will arise during the operation of Emergency Reserve. While this is a logical order for readers, it does present challenges highlighting the changes proposed to the Procurement Plan, and we have highlighted the proposed changes related to each section of this consultation paper.
53. To implement Emergency Reserve no changes are proposed to either the Introduction or Appendix C – Key contracting terms for ancillary service procurement contracts sections of the Procurement Plan.
54. Where possible, we have aimed to maintain consistency of terminology and wording with other ancillary services, although some differences are necessary to reflect the unique aspects of Emergency Reserve.
55. The System Operator believes the following proposed changes to the Procurement Plan are required to implement Emergency Reserve following the Authority's decision to add Emergency Reserve as an ancillary service, and in some cases to maintain compliance with related Code obligations placed on the System Operator.

5 Forecast the need for Emergency Reserve

56. Under the Authority's design of Emergency Reserve, the System Operator is responsible for determining whether the procurement of Emergency Reserve is required.
57. We propose placing an obligation on the System Operator to develop and publish an Emergency Reserve forecasting methodology (paragraph 49) to determine the need for Emergency Reserve procurement.
58. Following the completion of an assessment following the Emergency Reserve forecasting methodology we propose placing an obligation on the System Operator to publish the results of the assessment (paragraph 50).

5.1 Forecasting will be carried out each year

59. Forecasting will be carried out by the System Operator at least once per year to assess the quantity of Emergency Reserve to be purchased. Paragraphs 49 and 50 place requirements to create an Emergency Reserve forecasting methodology and to publish the methodology and the results of each assessment performed.
60. The forecasting methodology will initially be based on New Zealand Generation Balance (NZGB)⁷ results, Security of Supply Assessment (SOSA)⁸, Planned Outage Coordination Process (POCP)⁹ data and any wider information that the System Operator finds to be relevant. In year 1, we will also consider the need to 'stand up' the scheme and to drive participation in broader demand response.
61. We will look to publish the Emergency Reserve forecasting methodology in late 2026 and publish the first round of forecasting in early 2027 assessing the need for Emergency Reserve during Winter 2027. Paragraph 50 details the post-assessment publication obligations of the System Operator. This includes the methodology which will be used to determine when pre-activation notifications and activation notifications will be sent in the period which has been assessed (see 9.2).
62. The forecasting methodology may be updated from year to year as we consider learnings from (a) operation of the ERS scheme and (b) any instances of use of the ERS and/or load shedding and/or grid emergencies.

⁷ [Customer Portal - NZGB](#) - an automated 200 day ahead assessment of N-1 and N-1-G results for morning and evening peaks which accounts for planned outages, includes a load forecast, and produces several sensitivities.

⁸ [Security of Supply Assessment | Transpower](#) - a report produced annually providing a 10 year look-ahead assessment of the power systems ability to manage dry winters and meet peak winter demand.

⁹ [Customer Portal - POCP](#) - a register of upcoming planned generation, load, and transmission outages.

5.2 Co-design panel comments on forecasting

63. Discussion at the co-design workshops supported a procurement period of May to October for the first year of the scheme. The final decision on this will be made as part of the first round of forecasting.
64. At co-design it was suggested that we use a third party to provide data/modelling to inform the forecast exercise; we note that the forecast will be based on information available to us, and that we already procure demand forecasting services from specialists where appropriate. For example, we procure demand forecast data from a specialist third-party provider for use in NZGB, which will be used as an input to the forecasting analysis.
65. At co-design it was discussed that there are limited previous instances of load shedding to draw upon for data, and previous load shedding has been driven by factors that are difficult to directly forecast. There was broad agreement that this is an inherent challenge that cannot be completely eliminated.
66. We also note that there can be significant changes in the industry between events, which makes it difficult to generalise any findings based on past load shedding. For example, there were changes to controllable load arrangements following the 2021 load shedding event, which limits the applicability of analysis of events prior to this point, given that Emergency Reserve will only be activated after controllable load.

5.3 Forecasting in future years

67. The System Operator may also consider having an additional trigger for forecasting to be carried out in addition to the annual assessment of winter, for example a trigger based on NZGB. This would indicate if additional forecasting would be prudent given predicted residual values. No such additional triggers have currently been set out, but the Procurement Plan leaves it open to the System Operator to implement them in future if needed.
68. We note that month to month forecasting was suggested by the Authority. This is not being progressed in the delivery approach for year 1. Automated forecasting would not be feasible within the required timeframes. More frequent manual forecasting would involve significant additional cost and will only be reasonable if there is a specific reason to do it (as described above). Month to month forecasting also gives less revenue certainty for providers, which is particularly important in the first year of the scheme when providers are more likely to incur set-up costs. Procuring for a fixed period in year 1 is also in line with the Authority's objective of encouraging wider participation in demand response.

Question 1

Do you have any suggestions for other inputs or analysis that should form part of the forecasting process?

Question 2

Do you have any comments on our suggested forecasting approach?

Question 3

Do you have any thoughts on the balance between accuracy and pragmatism in the forecasting process, and where the System Operator should aim to land in this balance?

6 Procure Emergency Reserve

69. Following an Emergency Reserve need forecasting assessment and publication of the results of the assessment the System Operator may procure Emergency Reserve. Procurement of Emergency Reserve will be via an open tender.
70. To enable the System Operator to procure Emergency Reserve several changes are required to be made to the Procurement Plan. Proposed changes are the addition of:
- Paragraph 6.6 - inclusion of Emergency Reserve to the list of ancillary services the System Operator may purchase
 - Paragraph 12 - the purpose of Emergency Reserve¹⁰
 - Paragraph 15 - a new table to reflect the System Operator may procure Emergency Reserve and the objective for purchasing Emergency Reserve
 - Paragraph 28.7 - obligating the System Operator to consider the balance between cost and quality of Emergency Reserve. Including the Authority's expectation when purchasing Emergency Reserve, the System Operator must have regard to the value of expected unserved energy
 - Paragraphs 47 – 50 to:
 - enable the System Operator to enter ancillary services procurement contracts for Emergency Reserve,
 - detail the Emergency Reserve pre-contract technical review,
 - detail the process by which the net purchase quantity assessment will be made, and
 - cover the post assessment Emergency Reserve reporting requirements.
71. These changes are necessary to enable the System Operator to purchase Emergency Reserve and to give context to why Emergency Reserve may be procured and to detail how the System Operator proposes to determine the net purchase quantity assessment for Emergency Reserve.

6.1 High level procurement provisions

72. Emergency Reserve has been added to the list of ancillary services that the System Operator may purchase in paragraph 6. The purpose of Emergency Reserve has been added in paragraph 12.
73. Procurement of Emergency Reserve will be treated as being on a "firm quantity procurement basis" rather than "half-hour clearing market procurement basis" (paragraphs A16 and A17). This is consistent with other ancillary services offering both availability and event fees, such as Black Start.
74. For existing ancillary services, in making our net purchase quantity assessment under paragraph 14, the Procurement Plan indicates that the System Operator must procure the services. Rather than adding Emergency Reserve to the existing paragraph, a new paragraph 15 has been added, with the wording "the System Operator *may* procure". This reflects that is no obligation for the System Operator to procure Emergency Reserve, and we will only do so if it is deemed necessary via the forecasting process.

¹⁰ The proposed purpose for Emergency Reserve has been worded based on the definition of "Emergency Reserve" in the Code.

75. A new sub-section has been added to cover the assessment methodology for Emergency Reserve (paragraphs 47 to 50). The new sub-section covers forecasting, general procurement provisions, pre-contract review, net purchase quantity assessment, and publication of forecasting information.
76. Paragraph 15 sets out the objective of procuring Emergency Reserve as being “to avoid involuntary reductions in, or electrical disconnection of, demand in a grid emergency”.

6.2 Contracting for Emergency Reserve

77. The System Operator will only enter Emergency Reserve ancillary service procurement contracts with willing parties who can meet the technical requirements of Emergency Reserve provision (Appendix B of the Procurement Plan and detailed in subsequent sections of this document).
78. Emergency Reserve contracts will be procured on a firm quantity procurement basis – a method of ancillary services procurement used when the System Operator has assessed there is a requirement for a fixed quantity or a high availability for the ancillary service. Ancillary services procured on a firm quantity procurement basis must be paid for by way of an availability fee, an event fee or both. This proposed method of procurement aligns with the treatment of potential payments for Emergency Reserve contained in the Authority’s Emergency Reserve decision paper, and the Emergency Reserve Code amendments. It also aligns with the Emergency Reserve design of a fixed quantity and high availability requirements.
79. Emergency Reserve contracts will be for the set timeframe identified by the application of the Emergency Reserve forecasting methodology. We are proposing referring to this as the call period, through the addition of ‘call period’ to the Procurement Plan’s glossary. For example, in year 1 this could be 1 May 2027 to 31 October 2027 (to be confirmed once forecasting is completed).

6.3 Procurement will be on a national basis in year 1

80. The co-design group considered that capacity scarcity is most likely to affect the North Island, for example in the case of an HVDC outage. In this case, North Island-based responses would be more valuable than South Island-based responses. However, the group also considered that this was not the only possible scenario for the use of Emergency Reserve and South Island-based responses could still be of value. Furthermore, excluding South Island-based responses would reduce competition. On balance, the group therefore supported the System Operator’s proposal to procure on a national basis in year 1, noting that the System Operator would retain the option to take location into account during tender assessment.
81. Tender assessment, pre-activation and activation are all procurement decisions, as all potentially incur separate fees. We propose that procurement in year 1 will be on a national basis at all stages, except activation which may be triggered separately for the North and South Islands. We note that this is contingent on any findings resulting from the forecasting process.
82. In future years, location may be considered at each stage of procurement if appropriate. This would be expected to be determined during the forecasting process, and any changes to scheme settings will be indicated during the tender process.

Question 4

Do you have any comments on our proposed procurement approach?

6.4 Tendering

6.4.1 Information to be specified in tender and contracts

83. The tender documentation will include a draft contract and draft self-certification template.
84. To illustrate the information that will be specified at tender and in the contract, we have included below drafts of the tables to be filled out as part of bids at tender. The tables will also be included in ancillary service procurement contracts and form part of the agreed contract terms. Note that these two tables will not form the entirety of the ancillary services procurement contract; they contain only the elements that may vary from year to year or provider to provider.
85. The draft tables are presented to assist in understanding and discussion of the Procurement Plan updates only at this stage and may be subject to change prior to the first tender round. The System Operator is internally progressing other elements of the operationalisation of the scheme and may need to make changes in line with operational processes that are still being finalised.
86. All elements indicated as being provided by the System Operator will be consistent across ancillary service agents. These settings will be communicated at the opening of the tender process.
87. Contact details and fee amounts are the only items that will vary between ancillary service agents and are to be indicated by potential providers as part of their bids at tender.

Table 2. Contract table - SAMPLE ONLY, SUBJECT TO CHANGE

Item	Value
Call period	To be confirmed by System Operator as an output of forecasting
Contact details of System Operator	To be provided by System Operator
Contact details of Ancillary Service Agent for general use	To be provided by ancillary service agent
Contact details of Ancillary Service Agent for delivery of pre-activation, activation and restoration notifications	Email address(es) to be provided by ancillary service agent Other details may be required depending on the communications methods available. This will be specified by the System Operator in the tender documentation.
Pre-activation and activation triggers	System Operator to specify
Fees	Availability fee: (in \$ per month) Pre-activation event fee: (in \$ per pre-activation event, if applicable) Activation event fee: (in \$ per activation event OR \$ per trading period, as specified by the System Operator, if applicable)

Software and notification acknowledgement terms	System Operator to provide contractual terms stating: - the software to be used under paragraph B117 of the Procurement Plan - timeframes for acknowledgement of each type of notification per paragraph B114.1
Onboarding requirements	System Operator to provide list of onboarding requirements, such as those listed in paragraph 48 of the Procurement Plan
Additional testing requirement	System Operator to provide any additional testing requirements e.g. regular pre-activation notification acknowledgement tests
Additional contract terms	As required

Table 3. Contract table for detail of resources offered - SAMPLE ONLY, SUBJECT TO CHANGE

Type	Island	Source Node (GXP)	ICP	MW	Baselining methodology
Load or generation	North or South	GXP	ICP	MW offered	Baselining methodology to be described here

88. In addition to the information above, the System Operator will be interested in the Electricity Distribution Business (EDB) for each resource offered to assess any potential impacts on the provision of Emergency Reserve from distributor load control systems. This information can be obtained by the System Operator based on the GXP provided, so has not been requested separately.
89. Fees will be negotiated as a single figure for each Emergency Reserve provider, not per resource, so are in Table 2. This differs from other ancillary services where fees may be stated per resource. Other ancillary services require separate fees because (a) in some cases resources may be offered separately and (b) in some cases availability fees are not paid during allowed outages, so individual fees are required to calculate the availability fees owing.

6.4.2 Evaluation of tenders

90. The evaluation of tenders aims to determine the best combination of tenders to accept to meet our PPOs and the goals of the Emergency Reserve scheme. The System Operator will consider whether each tenderer is capable of providing Emergency Reserve in line with the requirements of the Procurement Plan and tender documentation, along with the information provided by the potential provider in their bid.
91. Tender decisions will remain subject to the System Operator's discretion, and criteria may be used which are not explicitly laid out in the Procurement Plan, especially given it is a new scheme with limited information on potential issues that may arise within bids.

92. Cost will be a key consideration in the evaluation of tenders. Existing provisions under paragraph 28 of the Procurement Plan will apply to Emergency Reserve, and we also propose to add paragraph 28.7 which requires the System Operator to consider the value of expected unserved energy when making purchasing decisions. The relevant value of expected unserved load is defined in the definition of 'value of expected unserved energy' in Part 1 of the Code. The System Operator will aim to only procure Emergency Reserve as long as the cost of the Emergency Reserve remains below this value. We note that this cannot be guaranteed, as procurement decisions must be made ahead of time, before the quantity of any potential unserved energy can be reliably estimated.
93. In year 1, the System Operator intends to procure on a national basis, although we note this is subject to change following the forecasting exercise in early 2027.
94. Over future years, the System Operator will update the approach to evaluation of tenders to reflect lessons learned and wider changes in the industry and markets.

Question 5

Do you have any feedback on the tendering approach described in the consultation document?

7 Pre-contract technical review

95. Following tender assessment, the System Operator will identify its preferred providers, and these providers will proceed to pre-contract technical review.
96. The proposed pre-contract technical review is described in paragraph 48 of the Procurement Plan. Signing of contracts is contingent on satisfactory outcomes at the pre-contract technical review. If any of the preferred providers fail their pre-contract technical review, the System Operator may revisit its tender assessment to identify further potential providers.
97. Documentation will also be checked at pre-contract review. Specific requirements will be set out by the System Operator closer to the time but are likely to include confirmation of eligibility to provide the service, and a review of self-certification. (See 6.4 Tendering)

7.1 Testing

98. The System Operator intends to carry out testing as part of each pre-contract technical review. This testing will be at the cost of the potential provider, analogous to baseline testing for other ancillary services.
99. Testing requirements are not explicitly laid out in the Procurement Plan, as the System Operator wishes to retain flexibility to update these from year to year. It is expected that a test of the ability to receive and acknowledge notifications via the software requirements advised under proposed paragraph B117 (see section 8 of this paper). A full test of the ability to provide Emergency Reserve may also be required. Testing requirements will be advised as part of the tender documentation in the first year of procurement and reviewed in subsequent years.

Question 6

Do you support our proposed approach to pre-contract technical review and testing?

7.2 “High trust” self-certification approach

7.2.1 What we heard during the co-design process

100. The co-design panel concluded that a high trust model would be suitable for the Emergency Reserve service. What we heard:
 - The group felt that the System Operator should focus on what it needs from a service provider, rather than certifying individual loads. This was termed a ‘high trust’ model.
 - The group generally considered that a ‘high trust’ approach, including director certification and potential auditing, is a pragmatic approach for year 1 of the ERS, noting the group's view formed during workshop 2 that aggregators may be the most appropriate ER providers.
 - The group broadly agreed that a ‘high trust’ approach could be appropriate for the first year of the ERS, but that the System Operator needs to appropriately balance

pragmatism and the integrity of the service through very clear performance expectations and effective but proportionate penalties.

7.2.2 What is a 'high trust' model?

101. A 'high trust' performance monitoring arrangement means the System Operator will set clear performance requirements for ERAS providers against which providers will self-certify actual performance. Confirmation of performance will take the form of a director certification (self-certification) against the Emergency Reserve performance requirements. Financial penalties (non-payment of contracted fees or clawback of payments made) will, along with reputational/social licence risks, incentivise ancillary service agents to deliver and assess performance accurately. Additionally, the System Operator retains assessment mechanisms, primarily via the pre-contract review.

7.2.3 The risks and benefits of a 'high trust' model

102. A 'high trust' model simplifies performance assessment, but may lead to increased risk:
- Emergency reserve is ultimately paid for by purchasers. There is a need to ensure that value for money is being achieved, and a high trust system reduces the level of oversight by the System Operator.
 - If Emergency Reserve is activated and load-shedding is still required, the 'high trust' model will be scrutinised for adequacy to ensure Emergency Reserve providers delivered and more load was not shed than should have been necessary.
103. Risks are exacerbated if the 'high trust' model is applied to the initial pre-contract Emergency Reserve test. The System Operator will take this into consideration when determining pre-contract technical review requirements (see section 7.1 of this paper).
104. A "low trust" performance assessment model does not necessarily reduce risks in the case of bad actors. This is because the source of metering and indications will always be the Emergency Reserve provider themselves. It is not practical or efficient for verification meters to be installed, especially given the potential for participation by aggregated resources. In theory, a bad actor could alter meter data, whether that data is used for self-certification or provided to the System Operator for performance assessment. Corroboration of provider-sourced meter data is only possible if the Emergency Reserve provider assets are either large enough or locationally isolated such that Emergency Reserve performance becomes visible via another meter or indication i.e. a grid owner GXP meter, or ICP meter, if the System Operator were enabled to gather data directly from the operator of the meter.

7.2.4 Use of self-certification

105. Self-certification is a key component of the 'high trust' approach. A self-certification is a formal signed declaration from the ancillary service provider, stating that they can meet the requirements to provide Emergency Reserve. The template for the self-certification will be provided by the System Operator alongside the draft contract documents. Ancillary service agents will be expected to use the exact statement(s) provided in the template.
106. The signatory of the self-certification must be a director (or equivalent office holder) of the ancillary service agent (see Procurement Plan definition of 'self-certification').

107. The self-certification should be provided by the ancillary service agent, which is the party responsible for delivering the reserves and which is receiving payment for doing so. This may not be the same company that owns the physical assets.

Question 7

Do you support our proposal to use a “high trust” system, including self-certification? Do you have any comments on our proposed implementation of the “high trust” system?

7.3 Eligibility

7.3.1 Eligibility is largely determined by the Code

108. Eligibility requirements have largely already been determined in the definition of Emergency Reserve in Part 1 of the Code. This is cross-referenced in paragraph B113 of the Procurement Plan.
109. The Code includes a provision that Emergency Reserve may not be provided by equipment that also provides Instantaneous Reserve. In the Procurement Plan, we have added a requirement that Instantaneous Reserve offers must not be provided by any equipment that provides Emergency Reserve (paragraph B44.4). This means if an ancillary service agent offers both Emergency Reserve and Instantaneous Reserve using the same resource, they will be paid for neither. The alternative is not to include this provision, in which case, they would be paid for Instantaneous Reserve only.
110. Apart from the explicit exclusions in the Code, providers must be able to meet the performance standards in the procurement plan, so while we haven't added eligibility criteria explicitly, we have set implicit limitations on who can participate.
111. The possibility of setting a minimum participation size was discussed at the co-design workshops. It may not be pragmatic for the System Operator to contract with providers offering extremely small quantities; however, it would be difficult to set an exact threshold. We propose that no minimum participation size be set in the Procurement Plan. Any issues with offered quantities can be dealt with on an ad-hoc basis as part of the System Operator's tender assessment process.
112. The System Operator retains discretion to assess providers on additional criteria at tender. This will allow us to exclude any unsuitable equipment that has not been explicitly excluded here. For example, the System Operator may investigate additional considerations such as 'alternative points of supply' and potential interactions with automated load control systems (such as those operated by Distributors) to assess potential impacts on tenderer's provision of Emergency Reserve.
113. The System Operator is not proposing any additional stand-down or ring-fencing measures beyond those included in the Code definition of 'Emergency Reserve'. We consider that it is not necessary to add further eligibility settings beyond those set out by the Code and implicitly created by the performance requirements.

Question 8

Do you support our proposed eligibility settings?

7.3.2 Aggregators may be the most suitable providers

114. The co-design group discussed the hypothesis that aggregators are the most realistic participants. After excluding assets already providing interruptible load and other contracted demand response, the residual pool of assets is unlikely to line up reliably with the System Operator's requirements on an individual basis. An aggregator can ensure a reliable response through portfolio diversity.
115. The group identified that the System Operator need not design a scheme attractive to individual load customers. Rather, it should design one that works at a wholesale level, with aggregators able to 're-package' for load customers. The System Operator's scheme could focus on what it needs from a service provider, rather than considering the capabilities of individual assets.
116. If the System Operator offers only availability fees, this does not prevent aggregators from forming contracts with individual asset owners that include payment on other bases. The aggregator would receive income from the System Operator and is free to negotiate commercial terms to compensate its contracted asset owners as it finds most appropriate. This may include making payments to asset owners on a per-event basis, even if the payments from System Operator to aggregator are not structured this way. The System Operator accepts that this type of arrangement may involve the aggregator taking on some risk, given that the number of pre-activation and activation events within the contract period will not be known in advance, however it considers that the aggregators are relatively well placed to make commercial decisions on how best to incorporate this risk into the fee levels they propose to the System Operator during the tender process.
117. The co-design panel identified that a potential drawback of this approach was that it may risk deterring independent suppliers, especially if scheme settings are overly targeted towards aggregators exclusively.
118. Given the availability requirements (see section 9.1 of this paper), aggregators may be best placed to provide this service, rather than owners of individual assets. It is envisioned that assets only available during certain periods can be combined to give 24/7 availability in the aggregate.
119. However, nothing in the Procurement Plan excludes individual asset owners from participating in the scheme directly. Given that this is a new scheme, we do not wish to place undue restrictions on participation, especially since information about potential providers will be gained through the first tender process.

7.3.3 Application of the eligibility criteria

120. The co-design group suggested that the System Operator needs to include very clear guidance on which resources are explicitly included and excluded from participation in the ERS and its expectations around ring-fencing and stand-down from other markets. The group identified that there are instances where eligibility may not be clear-cut and requested that the System Operator provide clarity on these.
121. Some example applications of the rules are shown in the table below. We will also work with potential providers on a case-by-case basis if they are uncertain of how to apply the rules to their assets.



Table 4. Eligibility examples

Example	Eligible?	Comments
Loads on actively managed EDB networks	Yes	Interactions between a providers Emergency Reserve response and distributors active load control will be assessed as part of the pre-contract technical review
Industrial load, switched on and available to provide Emergency Reserve response 8am-8pm Monday to Saturday only	Yes, as part of wider set of assets Not as standalone	Must be available 24/7 during call period Can work with aggregator
One ICP with multiple assets downstream: one asset participates as Interruptible Load already, want a different asset to participate as Emergency Reserve	Case-by-case; System Operator discretion	Notify System Operator of the situation in your tender response and outline how you propose to ensure the Emergency Reserve response isn't captured in the instantaneous reserve monitoring data and vice versa. The System Operator will then determine whether to accept the proposed arrangements.

Question 9

Do you have any comments or questions about the eligibility criteria? Note that some eligibility criteria are determined by the Code's definition of "emergency reserve" and therefore out of scope for the current consultation.

Question 10

Is your organisation considering entering the emergency reserve market? If so, are you considering using resources removed from other schemes (such as interruptible load), or resources that do not currently participate in any similar schemes? Are you considering using load or generation or both?

8 Onboarding and use of FlexPoint software

122. We propose adding paragraph B117 to the Procurement Plan to give the System Operator the ability to require Emergency Reserve providers to use specified software to receive and acknowledge pre-activation notifications and activation notifications, and to update their Emergency Reserve capability. The System Operator has decided to use the FlexPoint platform to deliver this capability.
123. Ancillary service agents will need to set up FlexPoint as part of onboarding and prior to the start of the call period. Further information on implementation details will be provided by the System Operator during this process.
124. FlexPoint enables easier connectivity to the System Operator's tools for ancillary service agents wishing to provide Emergency Reserve than those interfaces used for the energy and instantaneous reserve dispatch. Use of FlexPoint also lowers overall delivery costs and enables an accelerated delivery timeframe.
125. FlexPoint will be used for all activities concerning pre-activation, activation and restoration notifications: issuing, acknowledgements, and confirmation of available quantities. It may also be used in performance assessment. Under the proposed high trust self-certification model this may be either as part of a System Operator initiated assessment of performance or could be bilaterally agreed by an ancillary service agent to use the functionality within FlexPoint as part of their own self-certification assessments. These activities are described in more detail in section 9.2 of this paper.
126. Ancillary service agents contracted for Emergency Reserve will be onboarded to FlexPoint. This will require a login and two-factor authentication to be set up. Ancillary service agents will need to carefully consider how this will be managed, for example if a key staff member were to go on leave during the call period.
127. Specific software requirements may vary from year to year, with the Procurement Plan requirement being "to use the software specified by the System Operator" (paragraph B117). In future years, any major changes to software will be signalled by the System Operator during the tender process. This ensures that the System Operator may make changes to the software platform used, or FlexPoint may rebrand, in future years without a need to update the Procurement Plan.

Question 11

Do you have any questions or comments on the System Operator's proposed use of specified software for the implementation of Emergency Reserve?

9 Operation of the service during the call period

9.1 Availability

9.1.1 Availability during call period

128. "Call period" has been added as a defined term in the Procurement Plan and is the period for which Emergency Reserve is procured. For example, in year 1 this could be 1 May 2027 to 31 October 2027 (to be confirmed once forecasting is completed). We are proposing a requirement for 24/7 availability within the call period (as reflected in paragraph B111). Ancillary service agents are not required to provide Emergency Reserve outside the call period (paragraph B115).
129. We considered limiting availability to times with high demand, such as morning and evening peaks. However, this would be more complex to implement in the System Operator's software tools. There is also a risk that Emergency Reserve may be required outside the specified times, leading to it not being available during a grid emergency for example. We only have a small sample size of grid emergencies so do not have a high degree of confidence in predicting the times when Emergency Reserve may be required.
130. We appreciate this may limit who can participate in the scheme as not all assets are available 24/7. However, we consider that a wide range of assets may be able to participate via aggregators (see section 7.3 of this paper).

9.1.2 No allowed outages

131. There will be no allowed outages for Emergency Reserve (paragraph B122). Allowing outages would require additional features in software, which was not feasible in the timeframes and would carry additional implementation cost.
132. Paragraph B124 of the Procurement Plan includes provisions that during any unexpected outage, the ancillary service agent must notify us, provide further information to us. Paragraph B118.3 provides a provision that the ancillary service agent must continue to acknowledge pre-activation and activation notifications. Paragraph B118.4 covers that such outages are deemed failure to comply with a performance requirement, unless due to a bona fide physical reason. Note the Code has been updated to include Emergency Reserve in its definition of bona fide physical reason.
133. If the ancillary services agent does not carry out the actions required in paragraph B124, this will be considered a failure to comply with a performance requirement and a material breach of contract (paragraph B125). Material breaches of contract allow the System Operator to terminate the contract (paragraph C8).
134. There are also requirements for ancillary service agents to use reasonable endeavours to minimise the duration and frequency of outages (paragraph B123) and to continue to provide Emergency Reserve during outages (paragraph B124.3).

9.1.3 Maximum response duration

135. We do not propose to specify a maximum response duration in the Procurement Plan. During co-design, stakeholders noted that providers would value an indicated maximum response duration to inform tender decisions, and that different tranches of load could potentially be offered for different durations to reflect differing load characteristics. We acknowledge that this information could assist providers when considering whether, and on what basis, to participate. However, for year 1, we consider that allowing duration-based tranches would add complexity that is not compatible with the moderated minimum viable product approach. We also consider there would be material operational risk in specifying a firm maximum response duration in the Procurement Plan, as this could result in ancillary service agents ceasing their Emergency Reserve response while a grid emergency is continuing and the response is still needed. For these reasons, the Procurement Plan does not set a maximum response duration.

Question 12

Do you support our proposed availability requirements including call period, allowed outages, and maximum response duration?

9.2 Pre-activation and activation triggers

9.2.1 What are pre-activation and activation triggers

136. The purpose of pre-activation is to provide advance notice that an Emergency Reserve response may be required, so that ancillary service agents can take reasonable operational steps to be ready to respond if an activation notification is later issued. Activation is the point at which the System Operator instructs¹¹ selected providers to deliver their contracted Emergency Reserve response.
137. The System Operator's design for the delivery of Emergency Reserve automates these triggers, and therefore the issuing of pre-activation notifications and activation notifications.
138. During the co-design workshops, stakeholders emphasised that the trigger settings need to be clear, transparent and proportionate. The workshop minutes record that stakeholders considered the System Operator should "make the implications of its thresholds very clear in its consultation materials, by presenting analysis of historic residuals and clarifying interactions with other emergency responses".
139. It is also vitally important the settings for the pre-activation and activation triggers align as closely as possible with the Authority's intention for Emergency Reserve to be a 'penultimate resource' (ahead of instructed load shedding) to minimise the electrical disconnection of demand in grid emergencies.
140. Our proposed approach is to define the pre-activation and activation triggers as part of the forecasting process each year (paragraph 50.3). This allows the System Operator to ensure that the triggers remain appropriate and support cost-effective procurement over time and to respond to any changes in the operating context.

¹¹ For the avoidance of doubt, we note that pre-activation and activation are not dispatch instructions. This is reflected in the definitions of 'pre-activation notification' and 'activation notification' in the procurement plan.

141. Pre-activation and activation trigger settings will be published as part of forecasting (paragraph 50.3).

9.2.2 Pre-activation provides advance warning of possible activation – minimum advance warning time is set in the procurement plan

142. Pre-activation provides advance warning of possible activation, to allow ancillary service agents to prepare to provide Emergency Reserve response.
143. The minimum time between pre-activation and activation is a variable setting that will be determined by the System Operator as per paragraph B116. This timing will never exceed 36 hours, as this is a limitation set by the Authority's decision paper. The likely range for year 1 is 12-24 hours; this will be finalised as part of the forecasting exercise.
144. The co-design panel's feedback was that 36 hours is likely too long. An excessively early pre-activation could increase associated costs, create false alarm risk, and increase gaming potential (depending on the baselining method used).
145. The co-design group feedback was that a pre-activation 24 hours in advance would suit complex industrial plant.
146. The co-design group suggested the System Operator could consider a staged approach with approximately 24 hours early signal, 2 hours pre-activation, 25 minutes final activation. We note this is out of scope for consideration as no 'early signal' mechanisms exist within the Emergency Reserve scheme. Existing public notices and WITS residual data may be used by ancillary service agents to inform decision-making prior to receipt of any pre-activation notices.

9.2.3 What happens when there is a pre-activation or activation?

147. When the pre-activation trigger is met, the System Operator will send a pre-activation notification to relevant ancillary service agents, as described in paragraph A20.
148. When the activation trigger is met, the System Operator will send an activation notification to relevant ancillary service agents as described in paragraph A21. The activation event is defined as starting at the beginning of the trading period immediately following the trading period in which the activation notification is sent. It ends when the System Operator sends a restoration notification.
149. All notifications (pre-activation, activation and restoration) must be acknowledged by ancillary service agents (paragraph B114.1). The timeframe for acknowledgement will be specified in the ancillary service agent's contract.
150. When acknowledging a pre-activation notification, the ancillary service agent will need to include a confirmation of the quantity of Emergency Reserve response (in MW) that the ancillary service agent is currently capable of providing (paragraph B114.1). This is expected to be the contracted quantity. The reason for requiring this acknowledgement is to prompt ancillary service agents to provide information on updated quantities in case they have a lower capability, for example due to an equipment failure. Note that providing this updated quantity does not mean that no enforcement action will be taken.
151. Acknowledging the notifications will require the ancillary service agent to log into the FlexPoint platform. Ancillary service agents will need to plan carefully to ensure staff are available, have access to their login details and are able to carry out two-factor authentication.
152. There can be multiple pre-activation events within a single day.



153. A pre-activation event can be extended. If an event is extended, a pre-activation notification will be sent to inform ancillary service agents of this. All notifications must be acknowledged under B114.1, including pre-activation notifications received within an active pre-activation event.

9.2.4 The System Operator may activate without pre-activating, but requirements will be relaxed in this case

154. Under some circumstances, the System Operator may not be able to meet the requirement to pre-activate ahead of time. In this case, the ancillary service agent is required to make “reasonable endeavours” to provide Emergency Reserve response (paragraph B114.3).
155. In this case, providers will be paid activation event fees for any response they provide (assuming activation event fees are included in their contract). If providers are unable to provide Emergency Reserve response in this case, see section 10.6 of this paper for further details on the proposed framework for financial impacts of non-performance.

9.2.5 Year 1 trigger settings

156. For year 1, we expect the trigger values to be based on North Island and South Island residuals, with separate trigger values able to be set for each island. Although Emergency Reserve may be triggered by conditions affecting a particular island, the scheme is proposed to be procured on a national basis for year 1.
157. We expect the North Island trigger values to be more relevant in practice, given the current risk profile and the potential interaction between North Island capacity constraints, HVDC availability and reserve requirements. However, retaining the ability to set island-specific trigger values preserves flexibility and supports a national procurement approach in year 1.
158. At the co-design workshops, the System Operator put forward for discussion a starting point of 100 MW for the North Island residual threshold for pre-activation. This prompted discussion on whether 100 MW was sufficient to manage intermittency risks, given how quickly wind generation can drop for example, and given that pre-activation decisions have to be made 12 to 36 hours ahead of time, when there is still significant uncertainty in wind generation forecasts. Conversely, the group discussed that overly frequent pre-activation, especially when not followed by activation, could generate a ‘boy who cried wolf’ effect, with an impact on public perception. It could also lead to increased costs, either directly through incurring pre-activation event fees if offered, or indirectly through creating costs for ancillary service agents who would then be expected to raise their availability fees in subsequent years. This is particularly the case for ancillary service agents who have non-zero pre-activation costs, for example if there is a need to start shutting down equipment at the point of pre-activation.

Question 13

Do you support our proposed approach to setting pre-activation and activation triggers?
Do you have comments or suggestions regarding the residual threshold values to be used?

9.2.6 Who will be pre-activated and activated?

159. We will pre-activate all contracted providers when a pre-activation trigger is met in either island. Pre-activating all providers is simpler to implement, gives all providers the same information at

the same time, and reduces the risk that the System Operator underestimates the quantity of Emergency Reserve that may be required. We acknowledge that pre-activation may incur costs for providers, and we welcome feedback on the practical and cost implications of this approach.

160. We considered whether the System Operator should pre-activate only the quantity of Emergency Reserve it expects to need. The co-design panel suggested that the System Operator should not pre-activate all contracted load if it expects to need only part of it, given the costs involved. However, we consider that pre-activating all providers is a pragmatic implementation setting.
161. Activation will be more targeted. We propose to activate only the providers within each island needed to meet the expected Emergency Reserve requirement, based on a static merit order, which will be determined by the System Operator following the signing of contracts. In determining the merit order, the System Operator will consider the contracted quantity available from each provider, costs, and any other information deemed relevant.
162. For year 1, activation will occur on a whole-provider basis, rather than through partial activation of an individual provider's contracted quantity. This is intended to simplify implementation and reduce operational complexity for both providers and the System Operator. Some exceptions may be considered, for example where a provider has assets in both the North and South Islands.
163. We also considered whether providers should be permitted to respond before receiving an activation instruction. The co-design panel raised the question of whether an earlier response should be allowed. Our current view is that providers should not deliver an Emergency Reserve response before activation, because doing so could displace market-based responses and may affect price signals. Moreover, activation is based on expected conditions in the next 30 minutes, so if a provider has responded before activation, their response is likely to be included in the forecasts on which the activation decision was based. A further significant complication would arise concerning settlement – an 'early' Emergency Reserve response could only be eligible for event fee payment if an activation notification was sent, which is not guaranteed to occur if providers self-determine to respond 'early'. Therefore, we do not believe it is appropriate for emergency reserve providers to respond prior to receipt of an activation notification.

9.2.7 Public information on pre-activation and activation

164. In the co-design workshops, stakeholders also indicated support for public notification of pre-activation and activation at the point when they occur, to ensure all parties have equivalent information. The System Operator does not propose that pre-activation and activation involve a public notification. We consider that existing information is sufficient, with information being available via existing market notices (see graphic below) and residuals information published on WITS. We also note the concern raised in the co-design workshops that frequent pre-activation could generate media attention and undesirable informal public conservation responses. We consider that adding notification of pre-activation notifications as they occur could increase this risk without providing any additional value to market participants.
165. Reporting on the use of Emergency Reserve will also be made publicly available after events, as required under clause 8.54BA of the Code.

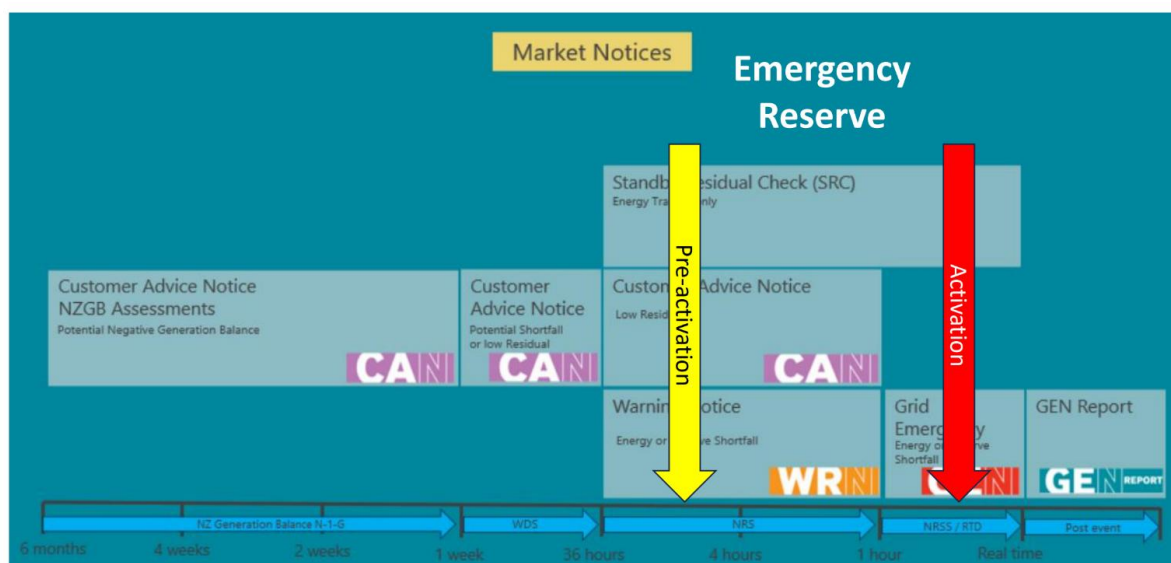


Figure 2. Market notices and Emergency Reserve timeline

9.3 Restoration

166. Restoration here means the ceasing of the Emergency Reserve response (either ceasing additional generation or restoring load). Restoration is a manual process based on decision-making by the System Operator, based on the situation relating to the grid emergency. There is no set timeframe or maximum duration of response. When the System Operator is ready for Emergency Reserve response to cease, we will issue restoration notifications via FlexPoint. These are to be acknowledged by providers via FlexPoint.
167. Ancillary service agents are allowed to restore later than the notification but must still acknowledge the restoration notification within the timeframe specified in their contract; acknowledgement of the restoration notification does not constitute a statement that the Emergency Reserve response has ceased. Based on feedback from the co-design panel, our understanding is that not all providers will be able to immediately cease their Emergency Reserve response, for example an industrial site where staff may have been sent home. This setting may lead to over-provision but given the nature of the service, we consider this is preferable to under-provision or to exclusion of potential providers.
168. A fixed or maximum restoration timing could be considered to give better certainty for potential providers. We decided against this because it would risk Emergency Reserve response ceasing while it was still required, potentially exacerbating system conditions during a grid emergency.

Question 14

Do you have any comments about our proposed operational approach to pre-activation, activation and restoration?

10 Reporting and performance verification

10.1 System Operator reporting on Emergency Reserve

169. The System Operator will be required to carry out both regular reporting on Emergency Reserve, and additional reporting following any grid emergency where Emergency Reserve was procured or activated.
170. The monthly reporting requirement is laid out in paragraph 73 of the Procurement Plan. It includes the same information already reported for other ancillary services and adds monthly reporting on pre-activated and activated quantities. Note that although paragraph 73 has been edited to change 'settlement volumes' to 'volumes', the reporting requirements for other ancillary services will remain unchanged.
171. Reporting following use of Emergency Reserve in a grid emergency is covered in clause 8.54BA of the Code and is not duplicated in the Procurement Plan.

Question 15

Do you have any comments on our proposed reporting provisions?

10.2 Additional Testing

172. Testing will be carried out at the pre-contract review (see section 7.1 of this paper). Existing on-demand testing provisions (paragraphs C25 to C29) also apply to Emergency Reserve. We are also proposing the following new testing provisions:
- Requirements for the scope of on-demand tests of equipment (paragraph B136) and monitoring equipment (paragraph B137) for Emergency Reserve.
 - Testing after changes to equipment under paragraph B142.2, with costs of such testing to be borne by the ancillary service agent.
 - Obligations to carry out on-demand tests are deemed to be performance requirements (paragraph B135), noting this has potential implications for payments under paragraphs C22 and C23.

Question 16

Do you support our proposed approach to on-demand testing?

10.3 Performance assessment

173. Paragraph B128 states that the ancillary service agent must carry out self-assessment of its performance after each activation event. The self-assessment will be expected to include the

baseline profile and data and method used to calculate it; the data recorded during the activation event, the calculation of Emergency Reserve response and any other information reasonably required for the System Operator to verify the Emergency Reserve response.

174. Even under a high trust model, providers need to know what would be expected if they were audited. The System Operator wishes to set an expectation of rigorous monitoring by providers, even if this is predominantly only used for self-assessment.

10.4 Monitoring

175. The co-design panel feedback was that aligning with Instantaneous Reserve metering standards would be a reasonable starting point. The group considered that an appropriate time resolution for metering would sit somewhere between half-hourly (insufficient) and millisecond (unnecessary).
176. We are proposing a metering resolution of 1 minute (paragraph B126.3). Full guidelines on data to be captured can be found in paragraph B126.
177. We propose that ancillary service agents should additionally retain data for at least 30 business days (paragraph B127), in line with the existing provisions for frequency keeping in paragraph B18. Ancillary service agents would be required to provide this data to the System Operator within 15 business days of a written request per paragraph B131.
178. Under paragraph B126.4, monitoring data must be time-tagged. This must use GPS, Precision Time Protocol (PTP) or Network Time Protocol (NTP). We note this is a wider range of options than is currently specified for other ancillary services; we intend to review the options available for other ancillary services in future.

Question 17

Do you support our proposed approach to monitoring and verification?

Question 18

If you are a potential provider of Emergency Reserve, are the suggested requirements technically feasible for you? To what extent would metering or other hardware upgrades be required for your assets to participate in the scheme?

10.5 Baseline

10.5.1 Delivered quantities of Emergency Reserve will be calculated relative to baseline consumption

179. Response is measured with respect to a baseline as outlined in paragraph B129. This is necessary to establish additionality; the scheme does not intend to reward participants for reductions in loads that would have happened without an incentive being provided. Most sites and equipment do not have a 'flat' consumption profile over time but instead vary in their electricity consumption

depending on the time of day, ambient temperature, and a range of other factors. It is therefore necessary to measure any reduction in load against the 'normal', or baseline, consumption profile for the site or equipment.

180. The co-design group acknowledged the difficulty of baselining across a diverse range of loads. It noted that standardised approaches exist in other jurisdictions and in FlexPoint, and that the particular method used could be agreed through contracting.
181. The appropriate baselining methodology may vary depending on the factors that affect the consumption for that site or asset. We therefore propose that the appropriate baselining methodology be mutually agreed between the ancillary service agent and System Operator at pre-contract review (paragraph B129). We intend to have reference to internationally accepted techniques when determining which baselining methodologies will be acceptable.
182. The co-design group also identified baselining as a primary opportunity for gaming the scheme, with manipulation of baselining noted as being the primary source of gaming in comparable overseas schemes, in the panel's experience. After pre-activation, providers could inflate load ahead of an event to increase measured reductions. The baseline lookback period should hence exclude the pre-activation window.
183. The co-design group recommended that the System Operator should also protect against gaming through load substitution across feeds.

10.5.2 Baselining for generation

184. We note that for some generation equipment, the 'baseline' situation is for the equipment to be switched off. In this case, the 'baseline' will be taken as 0 MW and the Emergency Reserve response calculated with reference to this.
185. We reserve the right to take additional information into account in our tender decisions. For example, we may consider whether generation equipment would be expected to run during periods of high market pricing based on historical data.

Question 19

Do you have any comments on our proposals regarding baselining? If you are a potential provider, you may wish to include examples relating to particular assets that may participate in the scheme.

10.6 Enforcement and penalties

186. Compliance and enforcement were topics of considerable interest to the co-design panel. The group considered that a punitive regime would reflect the security-of-supply purpose of the scheme and incentivise resources into other markets where appropriate, consistent with the goals of the scheme, but may discourage participation or lead to overly conservative quantities being offered, increasing scheme costs.
187. The group discussed that if no event fees were offered, this would limit the System Operator's options for penalties, with non-payment of availability fees being the most feasible option in this case. The group discussed whether non-payment of availability fees provided sufficient incentive for effective Emergency Reserve delivery.

188. The co-design group considered that penalties should be proportionately lighter than for other ancillary services on the basis that non-delivery simply reverts to the status quo, making non-performance less consequential than for other ancillary services. It also agreed that reputational concerns, contract provisions, director certifications, and auditing would be effective for disciplining performance under a 'high trust' approach.
189. The co-design group discussed how clawbacks may need to differ according to timing, scale, or duration of response. It was generally agreed that the clawback could be linear with regard to scale, but potentially not with regard to timing or duration, as a late response would likely be ineffective for avoiding load shedding.
190. We propose that if the ancillary service agent does not provide at least the contracted amount of Emergency Reserve when activated, any activation event fee payable for the activation event will be reduced proportionately (paragraph A19).
191. Paragraph B119.1 states that if the ancillary service agent fails to acknowledge a pre-activation or activation notification, they will not be paid the event fee, regardless of whether they ultimately provided the reduction in load (or increase in generation). We are proposing this because if the control room are navigating an emergency situation and do not receive confirmation that the Emergency Reserve response will be provided, this materially impacts their ability to manage the situation and in the most extreme situation, may result in other measures being used e.g. load-shedding.
192. No specific penalty is proposed for non-acknowledgement of restoration notification. This is still a performance requirement and therefore subject to the general enforcement measures relating to performance requirements.
193. Paragraph B119.2 lays out other actions that the ancillary service agent must take if they fail to acknowledge a notification.
194. Paragraph B120 lays out the circumstances under which the System Operator may reduce the contracted MW. This is in line with similar provisions for other ancillary services, although note that for Emergency Reserve, contracted quantities may be reduced for outages, since no outages are allowed for this service, in contrast to other ancillary services. Such reductions only apply from the point when the System Operator gives notice to the ancillary service agent i.e. this provision will not be used for retrospective reduction of fees. The co-design group noted that force majeure and bona fide reasons for non-performance warrant consideration. Force majeure is covered under existing general contract terms in Appendix C of the Procurement Plan. Bona fide situations are covered under paragraph B118.4.

Question 20

Do you have any comments on our proposed approach to enforcement and penalties?

11 Provider fees

11.1.1 Fee types offered

195. It is proposed to allow the System Operator to offer three different fee types for Emergency Reserve. These are: availability fees, pre-activation event fees, and activation event fees. More information about these fees can be found in Table 5. The System Operator is not obligated to offer all three fee types in any given contract period. The types of fee(s) being offered in a contract period will be notified at the start of the tender process.
196. Note that the term “availability fee” has been used for consistency with other ancillary services. Paragraph A22 clarifies that availability fees are a “pre-event” payment and relate to the definition of “Emergency Reserve pre-event cost” in the Code.

Table 5. Summary of fee types

Fee type	Description	See also
Availability (pre-event)	\$/month amount, applying for duration of contract period	Definition of ‘availability fee’
Pre-activation fee: per event (no option for this to be “per trading period”)	\$/event, where an “event” means pre-activation signal being sent.	Paragraphs A18, A20
Activation fee: per event	\$/event, where an “event” means activation signal being sent.*	Paragraphs A18, A21
Activation fee: per trading period	\$/trading period	Paragraphs A18, A21

*Note if service is activated without pre-activation, then the activation fee would only be payable if the ancillary services agent responded to the activation signal, per paragraph B114.3.

11.1.2 Fee structure in year 1

197. There is limited information available to support reliable estimates of the number of pre-activation or activation events. Such estimates are potentially relevant both to providers’ pricing decisions and to the System Operator’s assessment of total scheme costs, and comparison with the expected value of unserved energy.
198. We heard during co-design that some providers may face real and distinct costs if Emergency Reserve is pre-activated or activated, and that if no event fees are offered, the costs are not straightforward to build into an availability fee. This may be particularly relevant for large industrial participants. We also acknowledge that providers may reflect this uncertainty in their availability fee.
199. At co-design it was raised that if event fees are not offered, potential providers may charge higher availability fees to cover their potential costs. Given the probability of events is low, there is a risk that providers may overestimate the risk premium required, resulting in a higher overall cost.

- 200. We received feedback at co-design that event fees signal the marginal cost of Emergency Reserve use and therefore help provide discipline in its use. They will incentivise the System Operator to remain conscious of the marginal cost when determining pre-activation and activation threshold levels, as higher thresholds will lead to a higher number of pre-activations and activations. If no event fees were paid, this would not add to costs in the current contract period but would still lead to real costs for ancillary service agents, which we could expect to see reflected in higher availability costs at tender in subsequent years.
- 201. Event fees will also provide a performance incentive, especially in the case where the System Operator activates Emergency Reserve without prior pre-activation.
- 202. On balance, we consider that event fees should be offered in year 1, subject to a final decision before release of the tender documentation.
- 203. Offering availability fees is consistent with the insurance analogy for Emergency Reserve: the scheme is intended to ensure capability is available for a low-probability event, rather than to pay primarily when the event occurs. In addition, availability payments provide an incentive for providers to enable new demand response capability, which is one of the goals of the scheme.
- 204. The co-design panel suggested that the System Operator could set caps on the number of pre-activations and activations. This would provide certainty to potential providers and thus may encourage wider participation in the scheme. The procurement plan does not mandate the setting of a cap, as we consider event fees already compensate providers in line with the number of events.

Question 21

Do you support our proposed approach to fees?

12 Regulatory Statement for the proposed amendments

12.1 Objectives of the proposed amendments

205. The Procurement Plan sets out the process the System Operator must use reasonable endeavours to follow when it procures ancillary services. The objective of the Procurement Plan is to ensure ancillary services are procured competitively, reliably and efficiently.
206. The objective of the proposed Procurement Plan amendments is to implement the new Emergency Reserve ancillary service.

12.2 The proposed amendments

207. The drafting of the proposed amendments is shown in the track-change version of the Procurement Plan included as part of this consultation.

Question 22

Do you have any drafting suggestions for our proposed amendments?

12.3 The benefits are expected to outweigh the costs

208. In terms of the overall establishment of the Emergency Reserve scheme, the Authority has established that benefits outweigh costs as described in its decision paper¹².
209. The proposed implementation of the Emergency Reserve scheme takes into account the costs and benefits of various scheme settings as described throughout this document. Careful consideration has been given to impacts on other aspects of the market such as instantaneous reserve participation, AUFLS, controllable load, and scarcity pricing.
210. In terms of ongoing costs, the System Operator will give consideration to costs and benefits during its forecasting and tendering processes. The System Operator will have reference to the value of expected unserved energy as defined in the Code.

¹² [Emergency Reserve Scheme Code amendment proposal](#) | [Our consultations](#) | [Our projects](#) | [Electricity A...](#)

Question 23

Do you agree the benefits of the proposed amendments to the Procurement Plan can reasonably be expected to outweigh its costs?

12.4 The proposal is preferred to other options

- 211. Alternatives were considered for many of the proposed settings, and these have been discussed throughout the document, along with reasons for choosing the proposed options.
- 212. In developing our proposed implementation approach, we considered other potential options for amending the Procurement Plan. These were informed by input from stakeholders during the co-design workshops. The options considered are described throughout this consultation document, along with our reasons for preferring the options selected. We acknowledge that there are trade-offs implicit in many of these decisions and welcome industry feedback on these matters.

Question 24

Are there any other options we should consider? Please explain your preferred option in terms consistent with the Authority's statutory objective in the Electricity Industry Act 2010.

12.5 The proposal complies with section 32(1) of the Act

- 213. The Authority's main objective under section 15(1) of the Act is to promote competition in, reliable supply by, and efficient operation of, the electricity industry for the long-term benefit of consumers. The Authority's additional objective under section 15(2) of the Act is to protect the interests of domestic and small business consumers in relation to their supply of electricity. The additional objective only applies, however, to the Authority's activities in relation to the dealings between participants and domestic and small business consumers, under section 32(3).
- 214. Section 32(1) of the Act provides that the Code may contain any provisions that are consistent with the Authority's objectives and are necessary or desirable to promote one or all of the matters listed in section 32(1).
- 215. We consider that the proposed amendments comply with section 32(1) of the Act because they would help to promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the benefit of consumers.
- 216. The ERS aims to support reliable supply and efficient operation of the electricity system by providing an additional operational tool to reduce the likelihood and/or scale of involuntary load shedding during grid emergencies. The proposed Procurement Plan amendments are directed to implementing that service in a way that is practical, proportionate and flexible to enable improvements over time. In particular, the proposed approach uses annual forecasting and tendering to align procurement with expected need, clear pre-activation and activation processes

to support reliable delivery, and a high-trust performance framework to reduce unnecessary administration while retaining appropriate accountability. These implementation choices are intended to encourage participation by a broad range of potential Emergency Reserve providers, support competitive and cost-effective procurement, and ensure the service can be operated in a manner that complements existing processes and market arrangements. On that basis, we consider the proposed amendments promote competition, reliability and efficiency for the long-term benefit of consumers, as required under sections 15(1) and 32(1).

Question 25

Do you agree that the proposed amendment complies with section 32(1) of the Act?



Appendix A: Sample Self-Certification

ANCILLARY SERVICE AGENT SELF-CERTIFICATION – EMERGENCY RESERVE

THIS SELF-CERTIFICATION is made by [ancillary service agent].

[ancillary service agent] confirms that its:

- **emergency reserve equipment** is eligible to provide **emergency reserve** within the definition of **emergency reserve** in Part 1 of the **Code**;
- **emergency reserve equipment** is capable of meeting the performance requirements in paragraphs B114 and B117 of the procurement plan; and
- monitoring equipment is capable of meeting the performance requirements in paragraph B126 of the procurement plan.

[Ancillary service agent] will notify the system operator as soon as reasonably possible of any changes that may impact its **emergency reserve** performance.

Date: _____

Signed by: _____
Click or tap here to enter text. **Name of director (or equivalent office holder)**

