SUBMISSION TO THE SYSTEM OPERATOR

Ancillary Services Procurement Plan
Emergency Reserve

Submitted by Blackcurrent Limited

To Transpower New Zealand, as System Operator

Date 25 September 2026

Contact Paddy Urlich, Head of Product — paddy@blackcurrent.io

ABOUT THIS SUBMISSION

Blackcurrent Limited is a New Zealand Energy as a Service business. We design, build, operate and optimise distributed energy systems for commercial, industrial and rural customers, combining solar, battery storage and controllable loads with our Flex software platform. We operate metering and telemetry across customer sites and remotely control flexible loads in live deployments, and we are developing demand response dispatch and aggregation of distributed resources.

We are responding as a prospective ancillary service agent. Our comments are made from the perspective of an aggregator assembling a portfolio from many smaller, distributed resources — the participant the System Operator identifies in section 7.3.2 as the most likely provider. We have confined our answers to the questions on which we have a practical view.

Blackcurrent Limited consents to this submission being published. It contains no confidential material.

Contact: Paddy Urlich, Head of Product — paddy@blackcurrent.io

---

QUESTION 1

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

Lead time is the binding constraint for an aggregator. A portfolio is assembled from commercial arrangements with many individual asset owners, and those arrangements take months to put in place. We ask that the forecasting methodology, the results of each assessment, and the call period be published as early as practicable, and as far ahead of the tender as possible. Without that lead time, the pool of resource available to any aggregator at the first tender will be materially smaller than the pool that exists in the market.

We also suggest the assessment consider the demand-side resource realistically available, alongside the quantity required. A procurement quantity set without reference to what the market can supply risks a tender that does not clear.

QUESTION 2

Do you have any comments on our suggested forecasting approach?

We support annual forecasting for year 1. Revenue certainty over a defined call period is what allows an aggregator to offer asset owners terms, and month-to-month procurement would make that considerably harder in the first year of the scheme. We agree with the reasoning in paragraph 68.

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?

We support erring towards pragmatism in year 1. The scheme cannot be calibrated accurately before it has operated, and an overly precise forecasting process would delay participation without improving the outcome. We would rather see a simple methodology published early than a refined one published late.

QUESTION 4

Do you have any comments on our proposed procurement approach?

We support procurement on a national basis in year 1. It maximises the pool from which a distributed portfolio can be assembled and supports competition, consistent with the co-design group's conclusion.

If location is taken into account at any procurement stage in future years, we ask that it be signalled at least a full tender cycle ahead. Portfolios are built from customer contracts negotiated months in advance; a change in the locational basis after those contracts are in place cannot be responded to within a tender period.

QUESTION 5

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

We support the approach, with two requests.

First, that the tender documentation, the draft ancillary services procurement contract and the draft self-certification template are all published at the opening of the tender rather than during it. Several matters that materially affect price — testing requirements, acknowledgement timeframes, onboarding obligations — are deferred to those documents, and providers cannot price a bid before seeing them.

Second, we support fees being negotiated as a single figure per provider rather than per resource (paragraph 89). For an aggregated portfolio this is the correct treatment: the service offered is a portfolio quantity, not a sum of individually contracted assets.

QUESTION 6

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

We support a pre-contract technical review, and agree that contracting should be conditional on it.

Our concern is that testing is to be at the provider's cost (paragraph 98) while its scope is not published until the tender documentation. An unscoped, unpriced obligation is difficult to carry into a bid. We ask that an indicative testing scope and cost band be published with the tender documentation.

We also ask that, for an aggregated portfolio, testing be capable of being satisfied at portfolio level. Requiring a full test of every participating asset would impose a cost disproportionate to the assurance gained, and would weigh most heavily on exactly the aggregated participation the scheme is designed to attract.

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?

We support the high trust model.

It is proportionate for year 1 and, in our view, it is what makes aggregated participation viable at all.

One request. Because providers will be certifying against requirements they must interpret themselves, it would help if the System Operator published, with the tender documentation, an indication of the evidence it would expect to see on audit. Providers can then build their monitoring and record-keeping to that standard from the outset rather than discovering a gap after an event.

QUESTION 8

Do you support our proposed eligibility settings?

We support the proposed eligibility settings.

In particular we support the decision not to set a minimum participation size (paragraph 111). A threshold would fall hardest on aggregators assembling portfolios from smaller distributed resources, which is the participation the scheme most needs. We agree that any issue with very small offers is better handled through tender assessment.

We also support not adding ring-fencing or stand-down requirements beyond those in the Code.

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.

We have three questions on the application of the Code's eligibility definition. These are the matters that will determine whether, and with what resources, we are able to participate.

1. Application of paragraph (b)(i)(B) to existing commercial arrangements. The definition excludes load or generation that otherwise provides services 'in response to a contract or other arrangement with a purchaser or asset owner in circumstances that may correspond with a grid emergency'. We ask how this is intended to apply to: (a) load or storage operated under a commercial arrangement with the site owner for peak demand management or tariff optimisation, where operation frequently coincides with system peak but is directed at the site's costs rather than at grid conditions; (b) an arrangement with a distributor to support a constrained part of the distribution network; and (c) a battery installed and operated to supply a site during an outage, where the site is islanded and not drawing from the grid at the time. Our reading is that (c) is not caught, because during an outage no service is being provided into the market. We are less certain about (a) and (b). A statement of the System Operator's interpretation would allow prospective providers to assess their resource base before committing to a tender.
2. The 12-month lookback where an arrangement is ended voluntarily. Paragraph (b)(ii) carves out load withdrawn from interruptible load, and cases where a service ceased for reasons outside the agent's control. It does not appear to carve out an arrangement discontinued voluntarily in order to free an asset for Emergency Reserve. If that is the intended effect, a provider must forgo twelve months of revenue from an asset before it can be offered, which we expect will materially reduce the resource available to the first tenders. We ask whether that is intended.
3. Ring-fencing part of a single asset. Table 4 contemplates separating different assets behind one ICP on a case-by-case basis. We ask whether a defined tranche of a single asset's capacity — for example a reserved portion of a battery's power and stored energy, never used for any other purpose and separately evidenced in monitoring data — could be offered as Emergency Reserve while the remainder continues to serve the site owner. This would allow a clean zero baseline for the reserved tranche and avoid any question of additionality.

A related drafting point: Table 3 offers only 'Load or generation' as the resource type. We ask how a consumer-sited battery, which the Code expressly contemplates, should be declared.

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?

Yes. Subject to the eligibility questions in our answer to Question 9, we are considering entering the Emergency Reserve market as an ancillary service agent.

We would expect to offer aggregated controllable load across commercial, industrial and rural sites, together with consumer-sited battery storage of the kind expressly contemplated in the Code definition.

The resources we would offer are predominantly not currently participating in any similar scheme. We are not proposing to withdraw resource from interruptible load in order to participate. To that extent our participation would represent new demand-side capability rather than resource moved from elsewhere, which we understand to be consistent with the Authority's secondary objective at paragraph 44.

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?

We support the use of an existing platform rather than a bespoke interface.

We have one question and one request.

Can pre-activation, activation and restoration notifications be received and acknowledged programmatically through an interface, rather than only through an interactive login? The System Operator identifies the staffing implications at paragraphs 126 and 151. For a provider holding a call period of up to six months, an interactive-only path requires a continuously staffed roster maintained solely to acknowledge notifications. That is a real cost and it will be reflected in availability fees. An interface would also reduce the risk of the failure the scheme is least tolerant of — a notification not acknowledged in time.

We ask that FlexPoint interface specifications and onboarding requirements be published with the tender documentation, so that integration effort can be scoped and priced before bidding rather than discovered during onboarding.

QUESTION 12

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

We support the proposed call period and the reasoning for 24/7 availability. We have a concern about outages and a request about duration.

Availability should be assessed against the contracted portfolio quantity, not asset by asset. Paragraph B118 treats any reduction in capability as a deemed failure to comply and a material breach. For a provider offering a single portfolio quantity, an individual asset outage does not reduce the quantity delivered if the portfolio carries headroom — which a prudent aggregator will hold precisely because no outages are allowed. If capability is assessed at asset level, providers must either offer materially below true capability or accept a breach risk they cannot manage. We suggest the obligation be expressed against the contracted quantity, with notification required where an outage puts that quantity at risk.

On maximum response duration, we understand and accept the reasoning at paragraph 135. A firm contractual maximum could result in a response ceasing while a grid emergency continues, and we are not asking for one.

However, an energy-limited resource cannot price an unbounded obligation. A battery with a given power rating can sustain that output only for as long as its stored energy allows, and the obligation under B114.2.2 runs until restoration is instructed. Without any indication of expected duration, an energy-limited resource cannot size its offer, and the rational response is to withdraw.

We ask that an indicative expected maximum duration be published in the tender documentation — expressly not a contractual cap, and not a right to cease while an emergency continues, but planning guidance. We note a related consequence of the current settings: because fees are paid against contracted MW while the obligation is in MWh, the structure rewards maximising power rating over building duration. That is the opposite of what deliverability requires.

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?

We support defining the triggers through the forecasting process and publishing them with the forecast. Transparency ahead of the tender matters more to us than the particular values chosen.

On the values themselves, we do not have a view on the appropriate residual threshold. We would note that frequent pre-activation imposes real cost on aggregators as well as on large industrial participants. An aggregator pre-activating a portfolio must notify and prepare many sites, and in some cases place customer operations on standby. Those costs are incurred whether or not activation follows. This supports offering pre-activation event fees — see our answer to Question 21.

QUESTION 14

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

We support whole-provider activation for year 1 as a reasonable simplification, and we agree that providers should not respond before receiving an activation notification.

We note that pre-activating all contracted providers when only part of the contracted quantity is expected to be required (paragraph 159) transfers cost into every provider's availability price. We accept the implementation reasoning, but the cost is real and will be reflected in fees.

One request. The merit order is determined after contracts are signed (paragraph 161) and determines whether a provider is activated at all, and therefore whether any event fee is earned. We ask that a provider be advised of its own position in the merit order once set. Expected event-fee revenue is a material input to bid pricing, and providers cannot form a reasonable expectation of it without that information.

QUESTION 15

Do you have any comments on our proposed reporting provisions?

We have no comments on the proposed reporting provisions.

QUESTION 16

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

We support the proposed approach, with two requests consistent with our answer to Question 6.

First, that on-demand tests of an aggregated portfolio can be satisfied at portfolio level rather than requiring every participating asset to be tested individually.

Second, that where testing is required during a call period, it is scheduled and conducted so that the test itself cannot constitute or cause a failure to comply with the availability requirement.

QUESTION 17

Do you support our proposed approach to monitoring and verification?

We support the proposed monitoring approach in principle.

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?

Yes. The monitoring and control infrastructure we have already deployed across customer sites is sufficient for the requirements in paragraph B126. We do not anticipate that metering or other hardware upgrades would be required for the resources we would offer.

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.

We support the proposal that the baselining methodology be agreed per resource at pre-contract technical review, and that internationally accepted techniques be used as the reference. Different resource types require genuinely different methods and a single prescribed approach would not serve the scheme well.

We offer four observations.

1. A directly metered response should be available as a methodology in its own right. For most load, the delivered quantity is necessarily a counterfactual — an estimate of what the site would otherwise have consumed. For a consumer-sited battery, it need not be. Where a battery's operating schedule is fixed at pre-activation, the response can be measured directly as the deviation from that fixed schedule, and where the battery would otherwise be idle the baseline is simply zero — the treatment the System Operator already contemplates for generation at paragraph 184. A directly measured response is simpler to verify and materially less susceptible to the baseline manipulation identified at paragraph 182, because there is no estimate to manipulate. We would welcome confirmation that such a method is acceptable. Please see also our answer to Question 22.
2. We support excluding the pre-activation window from the baseline lookback (paragraph 182). Fixing the relevant inputs at the point of pre-activation achieves this directly and we would propose to do so.
3. Sites with behind-the-meter generation need care. Where a site has behind-the-meter solar, net consumption is dominated by irradiance, and a baseline constructed from net import will misstate the response whenever conditions differ from the reference days. We ask that baselining gross site load — net import plus separately metered generation — be acceptable, so that the load model is not conflated with a weather-driven generation model. We note this matters less where activation occurs outside daylight hours.
4. Aggregation improves measurement accuracy, not only availability. Where a portfolio response is the sum of many per-resource baselines, individual baseline errors are partly independent and partly offset one another. The aggregate quantity is therefore more accurate than any individual component. We think this is a further argument for the aggregated participation the scheme already favours.

QUESTION 20

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

We support proportionate penalties and the general approach in section 10.6, including proportional reduction of the activation event fee where less than the contracted quantity is delivered.

We have one concern. Paragraph B119.1 removes the entire event fee where a notification is not acknowledged, regardless of whether the Emergency Reserve response was delivered in full. We understand why acknowledgement matters — the control room needs to know what it can rely on, and paragraph 191 sets that out clearly. But the consequence is disproportionate to an administrative failure where the physical response was in fact delivered, and it is aggravated by acknowledgement currently requiring an interactive login.

We suggest one of three alternatives: an interface for acknowledgement, as raised in our answer to Question 11; a short defined grace period for acknowledgement; or a reduction in the event fee rather than complete forfeiture where the response can be verified as delivered. Any of these would preserve the incentive to acknowledge promptly without removing all payment for a service that was performed.

QUESTION 21

Do you support our proposed approach to fees?

We support the proposal to offer both availability fees and event fees in year 1.

Availability fees are what allow an aggregator to offer asset owners terms ahead of an unknown number of events. The System Operator's reasoning at paragraph 116 — that the aggregator is well placed to carry that risk — is correct, but it is only correct where availability revenue makes the risk bearable. Without an availability fee, the risk would have to be passed to asset owners, who are far less able to absorb it, and participation would suffer.

We also support offering pre-activation event fees. As noted in our answer to Question 13, pre-activation imposes real cost on aggregators, not only on large industrial participants, and those costs are incurred whether or not activation follows.

QUESTION 22

Do you have any drafting suggestions for our proposed amendments?

We have two drafting suggestions.

1. Paragraph B129.2. The clause requires that the method for calculating the baseline profile 'use past consumption or generation data (as applicable) as an input'. Where a response is directly metered against an operating schedule fixed at pre-activation, or against a zero baseline for an otherwise idle resource, past consumption data is not a necessary input and requiring it adds nothing. As drafted, the clause may inadvertently exclude the method least susceptible to baseline manipulation. We suggest the requirement be expressed as applying to the extent relevant to the method adopted — for example 'use past consumption or generation data as an input where applicable to the method' — leaving the suitability test in B129.1 and the agreement requirement in B129.3 to do the work.
2. Paragraph B118. As discussed in our answer to Question 12, we suggest the obligation be expressed by reference to the provider's ability to deliver the contracted quantity, rather than to the capability of individual equipment, so that a portfolio provider holding headroom is not deemed in material breach by an asset outage that does not reduce delivered quantity.

QUESTION 23

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

Yes. We agree that the benefits of implementing Emergency Reserve through these amendments can reasonably be expected to outweigh the costs, and we support implementation for winter 2027 on a minimum viable product basis. We would rather see the scheme stood up and refined with operating experience than delayed for a more complete first design.

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.

We have no further options to propose. Our comments are directed at implementation settings within the proposed approach rather than at alternatives to it.

QUESTION 25

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

Yes. We agree the proposed amendments are consistent with the Authority's objectives.

FURTHER COMMENT

Any other comments

One general comment.

The consultation proceeds on the view that aggregators are likely to be the most suitable providers. We agree, and we think the settings largely follow that logic — no minimum participation size, national procurement, a single fee per provider, and a high trust performance model are all consistent with it.

The settings that do not yet follow that logic are the ones we have commented on: availability assessed at equipment rather than portfolio level, acknowledgement by interactive login, per-asset testing and monitoring, and the absence of any duration guidance for energy-limited resources. Each of these is manageable individually. Together they add cost and risk that falls disproportionately on aggregated participation, and that cost will appear in availability fees.

We would welcome the opportunity to discuss any of these points directly.