29 September 2025

Power Systems Group
System Operator
Transpower New Zealand Limited
PO Box 1021
Wellington

Via email: system.operator@transpower.co.nz

Dear team,

Re: Consultation Paper— Connected Asset Commissioning Testing and Information Standard (CACTIS) Consultation

NewPower Energy Services Ltd (NewPower) appreciates the opportunity to make this submission on the System Operators' consultation on the new Connected Asset Commissioning Testing and Information Standard (CATCTIS).

NewPower, the holding company for Infratec NZ Limited (Infratec) and NewPower Energy Limited (NEL), are subsidiaries of WEL Networks Limited, New Zealand's sixth largest Distributor. Infratec, an Engineering, Procurement and Construction (EPC) company, is delivering low-carbon utility-scale solar and battery solutions at a time of unprecedented growth in New Zealand. Infratec developed and commissioned Rotohiko, NZ's first utility scale 35MWh battery energy storage system (BESS) facility at Huntly, connected to WEL Networks' distribution assets.

By way of context for this submission, NEL is the owner, operator and trader of generation assets including the Rotohiko BESS, which operates within both Network and Grid compliance modes, and so can offer a range of network, transmission, and energy market services within NZEM's wholesale market dispatch compliance rules. This BESS is already contracted to the System Operator as an ancillary service agent for instantaneous reserves.

Infratec has also constructed and commissioned approximately 118MW of utility-scale solar farms connected to distribution networks across New Zealand for both NEL and customers, with an additional 80MW currently under construction.

Key points in our submission

In summary:

1. NewPower is supportive of having all the commissioning and information requirements being in a centralised document with clear requirements and timeframes.

2. NewPower is concerned about some of the requirements in the draft Connected Asset Commissioning, Testing and Information Standard (CACTIS). We consider some of these draft requirements to be too onerous that will lead to unintended consequences. The major draft requirements NewPower is concerned about are listed below with further discussion:

Timeframes

NewPower is supportive of having clearly defined timeframes for asset owners to provide information and documentation. We are also supportive of having defined timeframes for the System Operator to review these deliverables.

NewPower believes the timeframe for submitting a planning Asset Capability Statement (ACS) should be reduced for smaller plant. For example, a 1MW plant can be developed and built faster than the proposed 12-month timeframe for planning ACS. Therefore, NewPower recommends the System Operator adopts different timeframes for planning ACS threshold could be based upon the excluded generation threshold of 10MW where typically generators less than this size won't be dispatched / have ICCP connection meaning less work and planning for the System Operator.

Power System Models

NewPower is concerned with the draft requirement to provide **four** different types of generator models for all generators above 1MW in size. The Authority has estimated in the consultation that producing these four models will cost up to $135k per generator. This cost is extremely significant for a generator in the sub 30MW range and has the potential to make generators of this size **uneconomic** (this is an unintended consequence). NewPower's opinion is that providing models should only apply for generators 30MW and larger.

NewPower assumes the System Operator will model all generators that are less than 1MW in some form of aggregated model. As domestic and small commercial generation will aggregate up to a large amount of generation. Would it be possible for the System Operator to raise the threshold for providing all four models and include these new generators below the new threshold in an aggregated model?

Also, the requirement to provide four different types of models is **more onerous** than the requirements of the International Transmission System Operator requirements listed in the consultation. NewPower questions if all four models are required, can the number of models to be provided be reduced? Or at least reduced levels of models for smaller generation plant.

Has the System Operator considered whether there is enough capacity in the Transpower Consultancy Panel for producing all of these models, and if there were not enough capacity what the delays to generation projects would mean for NZ Inc? Especially if these models are required for existing generation units as well as new generating units.

Will the requirement for providing these models apply retrospectively to already commissioned generating plant?

NewPower strongly recommends the System Operator undertakes a net benefit analysis of mandating the supply of all four models at different generation thresholds. Again, NewPower's main concern here is the current proposal is making smaller generation projects uneconomic.

Connection Studies

NewPower is supportive of having defined study requirements for the System Operator.

NewPower suggests the System Operator makes it clear studies and validation of studies / models are required if an asset owner wants to participate in the ancillary services market. NewPower questions the requirement to study frequency regulation of a generator for a HVDC bipole trip. This is because a

bipole trip is considered an Extended Contingent Event (ECE) and this seems excessive. NewPower argues that these studies should be limited to Contingent Events (CEs).

NewPower would like to question if these connection study requirements apply retrospectively to commissioned plant? Specially the requirement for power flow studies to cover a minimum of 3-year horizon.

High-Speed Monitors

NewPower is concerned with the draft requirement to install and maintain high-speed monitoring equipment for all generators above 1MW in size. The specified high-speed monitoring equipment in the draft CACTIS costs approximately $35k. This is another significant cost for small 1MW generators to bear. Along with the upfront cost of these monitors, having to provide the high-speed data after system events will create a significant amount of overhead for generators.

In NewPower's opinion high-speed monitoring should only be a requirement for non-excluded generating stations (i.e. greater than 10MW). Especially as high-speed monitors are generally used to demonstrate compliance with the AOPO's.

Will the requirement for installing high-speed monitors for smaller generation (<10MW) apply retrospectively to already commissioned generating plant?

Test Plan / Testing Requirements

NewPower would like to raise that in our experience for smaller plant (< 10MW) the System Operator hasn't been too interested in receiving test plans / commissioning plans. NewPower would like to raise that unless the generator is testing AOPO compliance there will be less for System Operator to review. Is the System Operator's intention to receive and review plans for all generators 1 MW and above? Or would there be different requirements for different generator sizes?

NewPower would like to note that for distribution connected generation the distributor will need to be across the commissioning plan as well. NewPower suggests that the System Operator considers whether for small distribution connected generation that the commissioning plan can be developed between the generator and distributor and just submitted to the System Operator for information.

Data Requirements

NewPower is in general agreement with the indication requirements in the Operational Communication Requirements section, but we do have some comments as detailed below:

- Under the generator specific data requirements with the Circuit Amps / MW / MVAr, it would be good to make it clear that this won't include a distributor's circuit and would only be for a dedicated generator owned circuit.
- What is the purpose of having number of "active" inverters for intermittent / BESS generators as well as "Station available MW"?
- With regards to providing BESS state of charge (SoC), NewPower would like to highlight that this data must remain confidential as it can reveal a company's BESS trading position in real-time.
    - Also, NewPower would like to highlight that there are plenty of other restrictions other than SoC that can limit what the BESS can do. Other limitations include warranty limitations and market limitations (such as gate closure certainty).

Will these data requirements apply retrospectively to already commissioned generating plant? If they are this would mean numerous ICCP changes for existing plant that don't meet all the data requirements.

Definition of Generating Unit

NewPower would like to highlight the System Operator's interpretation of a Generating Unit in Appendix A of the CACTIS could lead to significant complications when dealing with generation sites that have string inverters. In these cases, there could be a thousand Generating Units for a single site. To avoid complications NewPower recommends coming up with a definition that groups all inverters underneath a MV transformer as being a Generating Unit.

NewPower welcomes discussion with the Authority on any points in our submission that the Authority would like, either further clarification or information.

Yours Sincerely,

David Barnett
CEO
NewPower Energy Services Ltd

Appendix 1: NewPower's response to the consultation questions

Question	Comments
Q1. Do you agree that failing to provide key information will have an impact on the commissioning of an asset, power system security and the system operator's ability to meet the PPOs and dispatch objective?	NewPower agrees that failing to provide key information can have a negative impact. NewPower would like to stress that it is important to weigh up the net benefit of requiring certain information. The cost of providing some of this information can be significant especially for smaller generation plant.
Q2. Do you agree with the proposal to mandate minimum time frames for the activities in Chapter 1 of the proposed CACTIS?	NewPower is supportive of having mandated timeframes for both asset owners and the System Operator to provide information.
Q3. Do you agree with the proposed time frames for asset owners to submit a commissioning plan and for the system operator to review them?	Yes, NewPower views the timeframes for submitting and reviewing a commissioning plan to be fair and reasonable. NewPower questions whether the System Operator
Q4. Do you agree that requiring asset owners to use a standard commissioning plan template would help streamline the preparation and review process?	NewPower is generally supportive of this. NewPower's only reservation here is that a lot of generation will be distributor connected. The distributor will also require a commissioning plan, is the intention for this standard template to serve both as a distribution and System Operator test plan? Or must the generator produce two commissioning plans, one for the distributor and one for the System Operator?
Q5. Do you agree with the proposed time frames for asset owners to submit asset capability statements at the planning, pre-	Partially.

commissioning, and final stages of the commissioning process, and for the system operator to review them?	NewPower disagrees with the planning ACS submission timeframe of 12 months prior to connection for smaller < 10 MW connections. Smaller plants should have a reduced timeframe. Typically, these smaller connections can be developed much faster than larger connections. Also, these connections have much less impact to the network / grid.
Q6. Do you agree that formalising the asset capability statement assessment requirements will provide clarity for asset owners?	NewPower agrees, having clear requirements will enable generators to provide better information upfront and reduce rework.
Q7. Do you agree with the proposal to formalise requirements for asset owners to provide urgent or temporary changes to asset capability statements?	Yes, NewPower agrees with formalising timeframes to notify and provide changes if an asset owners plant cannot meet the asset owner performance obligations.
Q8. Do you agree with the proposed time frames for asset owners to submit m1 and m2 models, and for the system operator to review them?	NewPower believes that these models should only apply to generation plant that is required for larger plant due to the cost of supplying these models. For larger plant these timeframes for submitting and reviewing the models seems reasonable.
Q9. Do you agree that the updated modelling requirements are necessary to reflect the increasing complexity and changing generation mix within the New Zealand power system?	NewPower agrees that modelling complexity will increase with the addition of more IBR to the network / grid. But NewPower is concerned with the draft requirement to provide **four** different types of generator models for all generators above 1MW in size. In NewPower's view this requirement is **too onerous**. The Authority has estimated in the consultation that producing these four models will cost up to $135k per generator. This cost is extremely significant for a sub 30MW generator and has the potential to make generators of this size **uneconomic** (this is an unintended consequence). NewPower's opinion is that providing models should only apply to larger generators (i.e. in the 30MW plus range).

	Why has the System Operator decided upon a 1 MW threshold for providing these models? Has there been any **cost benefit analysis** for 1 MW being the threshold? Also, the requirement to provide four different types of models is **more onerous** than the requirements of the international Transmission System Operator requirements listed in the consultation. NewPower questions if all four models are required, can the number of models to be provided be reduced? Will the requirement for providing these models apply retrospectively to already commissioned generating plant?
Q10. Do you agree that the system operator needs TSAT and PSCAD software models to conduct the studies needed to maintain power system security and meet the PPOs?	Yes, but this does not mean that detailed TSAT and PSCAD models are required for all generation plant. The System Operator will not receive these models for generation plant <1 MW, so the System Operator will likely produce models to represent these "unmodelled" generators on aggregate. Can this modelling on aggregate approach be used for a higher generation threshold than 1 MW? As the projected modelling costs for smaller generation plant will make plant of this size uneconomic. NewPower urges the System Operator to think about a pragmatic solution to this.
Q11. Do you agree with the proposed time frames for asset owners to submit a final connection study report, and for the system operator to review it?	NewPower agrees with the proposed timeframes for submitting a final connection study and for the System Operator to review it.

Q12. Do you agree with the proposed approach of using RMS studies for scenario screening and EMT studies for detailed fault ride through analysis of IBRs?	NewPower generally agrees with this. But in NewPower's view requiring EMT models of smaller < 30 MW plant is too onerous.
Q13. Do you agree with the proposal to require asset owners to repeat fault ride through studies when control system parameters are modified during or after commissioning?	Partially. This depends on the control system parameters changed and the extent of the changes. Also, if the plant is smaller ride through can be demonstrated practically rather than via studies.
Q14. Do you support the proposed process for accessing encrypted models from other asset owners when needed for fault ride through studies?	Yes. Provided that plant OEMs are happy with this arrangement of sharing encrypted models.
Q15. Do you agree with the proposed time frames for asset owners to submit a commissioning plan and for the system operator to review it?	NewPower agrees with the proposed timeframes for submission of the commissioning plan and the System Operators review.
Q16. Do you agree with the proposed time frames for asset owners to submit a final engineering methodology, and for the system operator to review it?	NewPower agrees with the proposed timeframes for submission of the engineering methodology and the System Operators review.
Q17. Do you agree with the proposed testing requirements for wind, solar photovoltaic and BESS technologies?	NewPower agrees with the tests proposed for wind, solar, and BESS technologies. NewPower notes that the testing timeframes are in line with other types of generation. NewPower also agrees with no mandated testing for excluded generation stations.
Q18. Do you agree that the system operator needs the additional data identified in this section to maintain power system security and meet the PPOs?	NewPower agrees for the most part, but please refer to comments under the "Data Requirements" in our "Key points of our submission" section.

Q19. Do you agree with the proposal to use high-speed monitoring data to verify asset performance and reduce the need for routine testing of generating stations between 10 MW and 30 MW?	Yes, NewPower believes that utilising event data captured on a high-speed monitor for plant between 10 – 30 MW will be an effective and efficient way to prove compliance rather than routine testing.
Q20. Do you agree with the data quality requirements as described in Chapter 9 of the proposed CACTIS for high-speed monitoring and operational reporting?	No, NewPower is concerned with the draft requirement to install and maintain high-speed monitoring equipment for all generators above 1MW in size. The specified high-speed monitoring equipment in the draft CACTIS costs approximately $35k. This is another significant cost for small 1MW generators to bear. Along with the upfront cost of these monitors, having to provide the high-speed data after system events will create a significant amount of overhead for generators. In NewPower's opinion high-speed monitoring should only be a requirement for non-excluded generating stations (i.e. greater than 10MW). Especially as high-speed monitors are generally used to demonstrate compliance with the AOPO's. Will the requirement for installing high-speed monitors for smaller generation (<10MW) apply retrospectively to already commissioned generating plant?
Q21. Do you currently have the ability to provide the additional information proposed in the draft CACTIS? If not, when do you expect to be able to meet these requirements?	No NewPower does not have the ability to provide this additional information immediately for our existing generation plant or plant soon to be commissioned. NewPower estimates that it could take ~6 months to be able to provide all of the information once the requirements come into place. NewPower is concerned about having to relitigate connection studies, produce models, and provide more data via ICCP for our existing generation plant. This comes at additional unplanned cost and time. We are particularly concerned about the requirements for smaller /

	excluded generation stations, as the cost to provide this information is significant relative to the size of the generation plant.