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To: Transpower

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Genesis supports the System Operator's Strategy review

Genesis Energy Limited (**Genesis**) welcomes the opportunity to comment on Transpower's (**the System Operator**) *System Operator Strategy: Key Trends and Issues* consultation paper. Consistent with Transpower's role as System Operator under the Electricity Industry Act 2010 and as set out in Part 7 of the Code, we support Transpower undertaking this review and the development of a System Operator Strategy. In the context of rapid renewable energy growth, electrification, and the recent decline of domestic gas production, the System Operator's role ensuring system security and efficient optimisation of energy resources is pivotal.

Please find below our responses to the System Operator's questions. We have also appended to this submission copies of our FY26 H1 Investor Presentation and Interim Report which includes an up-to-date summary of our generation development pipeline. We look forward to discussing this further at the upcoming workshop in Wellington in March, and to further subsequent engagement during Transpower's second round of consultation.

Yours sincerely,

A handwritten signature in black ink that reads "Mitchell Trezona-Lecomte".

Mitchell Trezona-Lecomte

Senior Advisor, Government Relations and Regulatory Affairs

Consultation Questions – Genesis Energy’s Comment

Q1	Do you agree with the trends and drivers we have identified for the energy sector over the next ten years?
<p>Yes, we agree the document captures the key relevant trends impacting New Zealand’s energy system. To achieve New Zealand’s energy transition, electricity needs to meet 60% of New Zealand’s energy needs, be 95% renewable, and be practically available 100% of the time. As electrification continues, and electricity provides higher levels of total energy demand, the System Operator’s (SO) role will become relatively more important, and economic and social risks from real-time supply-demand imbalances will become relatively more impactful. In parallel, trends such as growth in inverter-based intermittent renewables and bi-directional technologies (i.e. BESS), distributed energy resources, and demand-side flexibility, will make the SO’s role more complex. We therefore support the SO undertaking this Strategy review and ensuring it has the capacity and capability needed to continue performing its role into the future.</p>	
Q2	Which ones do you think will have the biggest impact? Are there any that will be less or more impactful than we’ve identified? Less or more likely to occur?
<p>Political and regulatory environment</p> <p>We agree that the risks and issues identified in the recent <i>Review of Electricity Market Performance</i>, and reiterated here, remain key risks to the energy system, and that the best way to address these risks is through continued ongoing investment in renewables, BESS, and firm / flexible generation, along with the supporting infrastructure. As has been noted elsewhere, New Zealand is currently in the middle of a ‘renewables boom’ with 25% more new renewable generation under development than at the peak of the Think Big hydro programme in the 1970s.¹ Committed or under-construction projects will lead to 95% renewable generation by 2027. Regulatory certainty will be critical for giving investment confidence to ensure this continues, consistent with the market-led approach called for in the Government’s Policy Statement to the Electricity Authority. Genesis has an ambitious development pipeline and we aim to allocate more than \$2 billion across up to 2.5 GW in new generation and storage capacity. For our full development pipeline, see slide 27 from our H1 FY26 Results Investor Presentation.</p> <p>While it is critical to ensure continued development in new generation capacity, the decline in gas production remains a critical risk to both energy security and affordability in New Zealand. Genesis notes the Government’s recent announcement that it intends to progress contracting for an LNG import terminal. Genesis can generate electricity from LNG through our 400 MW gas turbine (Unit 5) at Huntly. Genesis will consider the potential role LNG can play as a fuel option within our portfolio as and when LNG comes to market (see slide 24 of our FY26 H1 results presentation for more detail).</p> <p>We agree it will be critical to ensure market settings continue to incentivise both investment in and efficient dispatch of firm, flexible generation. The</p>	

¹See BCG’s *Energy to Grow* report.

long-term Huntly Firming Options entered into in 2025 provide for three Rankine units to remain operational and available to the market for ten years (effective January 2026).² The retention of the Rankine to serve the 10-year HFOs also enables additional security products to be offered to independent retailers, generators and large industrials.³

We note and are supportive of enhancements to the security of supply assessments and work to investigate improvements to security of supply standards, and that the Government has signalled the need for enhanced market monitoring of security of supply by the System Operator. We are aware Transpower is updating the Security of Supply Assessment and producing a new annual Electricity Opportunities Statement, which we also support. We have also engaged with MBIE on its work investigating a regulatory framework to incentivise firm generation and flexible capacity.

Finally, we note the Electricity Authority has approved changes to the Security of Supply Forecasting and Information Policy (SOSFIP) recommended by the System Operator, including changes to contingent storage settings. We supported these changes, and reiterate here our view that contingent storage should remain the system's 'fuel of last resort'.

Economic and market changes

We see electrification, growth in inverter-based renewables and utility-scale battery energy storage systems, and growth in distributed energy resources (including demand-side flexibility) as the trends most likely to have the greatest direct impact on the System Operator and we are supportive of the System Operator taking a lead role as an enabler of these technologies. One obvious lever Transpower can pull to support this, in its capacity as grid-owner, is to ensure grid connections are as efficient as possible and we applaud Transpower for its continued efforts to optimise the grid connection process. We are aware of international examples demonstrating how AI can significantly accelerate connection system studies, and we encourage the System Operator to actively explore how something similar could be implemented here.

We also agree that a more highly renewable generation fleet will require the SO to be more flexible with scheduling and dispatch to ensure prices reflect real-time system conditions. We note the SO sees this as requiring greater consideration, for example "pricing of reserves may need to factor in a greater range of services which will need to be driven by higher investment in enabling technology on the system, more sophisticated operations and market system and procurement of new services from non-traditional sources. Similarly, consideration will need to be given to how price uncertainty and volatility impacts forward price signals and generator commitment decisions. If changes are required to reserve requirements, then a question that needs to be addressed is how costs of managing these services are passed on, and who pays" (paragraph 4.3). In principle we agree and would be interested to understand more about the SO's work in this area. One general comment we make at this stage is that it is critical to ensure real-time prices are efficient and accurate. Price volatility is a feature

² See H1 FY26 Interim Report, pg. 13.

³ See H1 FY26 Interim Report, pg. 4.

of a highly renewable system, and ensuring prices can rise (and fall) in response to real-time conditions supports efficient investment in the full range of generation and storage assets that will be necessary, such as BESS.

We agree with the System Operator that enabling investment in firm flexible supply to meet capacity peaks is a high priority. Under 4.4, the paper notes that “Transpower’s market clearing engine, the scheduling, pricing and dispatch (SPD), can produce arbitrary or inoperable outcomes when too much energy is offered at near-zero cost. Like other markets, we will need to consider changes to market rules and systems that ensure the market keeps delivering operable outcomes in these circumstances. Specifically, we anticipate the need to reconsider how the merit order is constructed for dispatch purposes as well as a fundamental review of how SPD subsequently meets any new market pricing and optimisation outcomes. The first issue, how prices are to be determined, is a matter for the Electricity Authority.” We would be interested in understanding more about this work programme. In our August 2025 submission to Transpower on its proposed tie-breaker provisions, we advocated for broader changes including updates to the Must Run Dispatch Auction, the effectiveness of which is limited. We also stated our support for the SO and the Authority exploring negative pricing, as was suggested by MDAG. Note we supported the SO’s recent proposals to the Authority to address tie-breaker situations. In general, we encourage the SO to ensure dispatch remains efficient such that price signals can efficiently incentivise investment in new energy resources.

Regarding electricity market innovation and tools (4.5), we agree regulations and policy settings need to keep pace to enable efficient integration of new technologies, including consumer energy resources, distributed energy resources, and other demand-side flexibility-enabling technologies.

Environmental

We generally agree with the System Operator’s assessment of this trend and its implications. We agree the System Operator needs “dynamic assumptions for planning outages” looking ahead weeks and months, and that it is critical for the System Operator’s control room operators to be well prepared to manage high-impact low-probability events.

Societal and Consumer Evolution

We agree with the System Operator’s assessment of these trends. To the extent the System Operator can influence factors impacting affordability, we agree this should be prioritised by ensuring pricing outcomes are efficient. Public communications is another area where Transpower can play a role to continue building societal and consumer understanding, supporting the long-term energy transition.

Technology Change

We agree the growth in intermittent and inverter-based resources, distributed energy resources, demand-side flexibility, and bi-directional resources (such as BESS), will increase the complexity of the System Operator’s role. Addressing this challenge will require close coordination with industry, lines companies, and across government, as well as adoption of new approaches,

tools and methodologies. The potential impact on system security and power quality (inertia) is well-captured in the FSR Roadmap.

Data, digitalisation and AI will certainly have material impacts on operation of the power system, as noted in the paper. As noted, we see potential for AI to help speed up connection processes. The transition from a synchronous, dispatchable generation system to a system dominated by inverter-based, intermittent resources may also necessitate different modelling approaches, scenario tools, and control room protocols. To the extent AI can enable the SO to better perform its functions in a highly renewable and intermittent system, we encourage it to invest in the requisite tools and capabilities. As noted in the paper, weather forecasting is an interesting area where AI has already shown potential, and we would be interested in learning more about the SO's thinking as to how best to trial or make use of this application. To the extent it may be relevant, we also encourage the System Operator to coordinate with MBIE and the Electricity Authority as they develop regulations for the electricity system under the Consumer and Product Data Act 2025.

We note the Authority's annual review of the System Operator's performance recommended it prioritise work on its "Control Room of the Future". We are interested in this work programme and support it.

Q3

What other trends or drivers may come into play for the energy sector over the next ten years that are relevant for power system operations?

No additional comment. The trends identified in this paper, and elsewhere by Transpower (i.e. in Te Kanapu) seem to provide comprehensive coverage based on currently available information.

Q4

What advanced technologies (e.g., AI, automation, digital twins) and real-time data capabilities will be critical for maintaining power system reliability as the system becomes more complex?

No additional comment (see comments elsewhere).

Q5

Where do you see the operation of the power system being in ten years, and its role in the broader electricity sector? What will be the same and what will be different?

As noted, the power system will become increasingly complex due to the combined dynamics of electrification, growth in intermittent and inverter-based resources, an increasingly bi-directional system (i.e. from BESS), and the growth in consumer and distributed energy resources and demand-side flexibility. All of this will continue and will make the SO's role more complex.

Q6

What skills and capabilities will the System Operator need to expand or develop, and how can the sector best support workforce transition and wellbeing during this change?

We encourage the SO to ensure it invests in data science and analytics capability that will enable it to harness AI and data-driven technologies with potential to optimise dispatch efficiency.

Q7

Are there areas where the System Operator could usefully provide more of a leadership role?

We agree with the recommendations made by the Authority in its annual review of the System Operator's performance for 2024-2025, specifically the recommendation to focus on evolution of the system operation function through its strategy development, including information technology strategic roadmap, future planning for systems, control room of the future, workforce development and retention. We also agree the System Operator should continue to play a leadership role with regards to priorities in the Future Security and Resilience Roadmap, which will be important for ensuring New Zealand's power system is prepared for growth in intermittent renewable generation and BESS, technology change, and changing power flow and demand patterns.

One specific area where we see potential for the System Operator and the Authority to accelerate market reform is with regards to enabling utility-scale BESS participation in wholesale markets, and we note the Authority's *Regulatory Roadmap for Battery Energy Storage Systems* identified a number of BESS-related activities in the FSR. Given the technology's potential to deliver significant system benefits, we see regulatory reform to enable efficient participation of utility-scale BESS as a priority. For a summary of our views, see our December submission to the Authority on its consultation paper titled *Wholesale market arrangements for battery energy storage systems*: [Wholesale market arrangements for battery energy storage systems | Our consultations | Our projects | Electricity Authority](#) .

We note the paper states the following in reference to reserves / ancillary markets under 4.3: "How the System Operator may need to adapt to maintain price accuracy and least-cost dispatch while integrating more ancillary services will require greater consideration. For example, pricing of reserves may need to factor in a greater range of services which will need to be driven by higher investment in enabling technology on the system, more sophisticated operations and market system and procurement of new services from non-traditional sources. Similarly, consideration will need to be given to how price uncertainty and volatility impacts forward price signals and generator commitment decisions. If changes are required to reserve requirements, then a question that needs to be addressed is how costs of managing these services are passed on, and who pays." To this we would add that the SO needs to accurately forecast all inputs for reliable schedule information due to the short duration of BESS capability. Therefore, visibility of demand side response or load shifting impacts need to be scheduled. To better enable visibility on demand side resources, there is potential to develop rules further in this area.

Another priority area for improvement identified by Frontier and the Government has been ensuring government / regulators and wider industry have sufficient gas market information to enable security of supply monitoring. To the extent necessary, we support joined-up efforts by relevant regulators and market monitors (Transpower, the EA, MBIE, and GIC) to ensure gas market monitoring is efficient and orderly, reducing data disclosure duplication for industry participants where possible. Relevant to this may be the recommendation in the recent electricity market review to work towards

maintaining a market surveillance data catalogue to assist the EA's market monitoring.

Q8

What is one thing that you would like the System Operator strategy to address?

Providing stakeholders (including relevant government and industry) with a three-year roadmap for the System Operator's priorities and work programme, similar to the FSR work programme, would also be useful for helping industry plan and track progress.

Appendix: Genesis Energy H1 FY26 Results

Investor Presentation: [h1 fy26 results presentation.pdf](#)

Interim Report 2026: [h1 fy26 interim report.pdf](#)