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Imogen Welling, Senior Regulatory Counsel, Vector

Via email: [REDACTED]

Tēnā koe Imogen

Approval of Vector's applications for the Innovation and Non-traditional Solutions Allowance

This letter sets out our decision to approve Vector's applications to recover up to 100% of the \$3,500,800 forecast costs of its 'Suburb of the Future Stage 1.1: LV Network Lab' project (LV Network Lab 1.1) and up to 75% of the \$1,060,000 forecast costs of its 'Suburb of the Future Stage 1.2: LV Network Lab' project (LV Network Lab 1.2) from the Innovation and Non-traditional Solutions Allowance (INTSA).¹ For the purposes of this approval letter, 'the Project' refers collectively to both projects.

Vector's applications

Vector submitted its initial INTSA application in April 2026. The application sought our approval to recover up to 100% of the forecast project costs of \$3,500,800 for two work packages and up to 75% of the forecast project costs of \$1,060,000 for another two work packages from its INTSA allowance at the completion of the Project. The Project was divided into two projects, with a separate application for each, in July 2026.

The Project aims to create a testbed, known as the LV Network Lab, to evaluate monitoring and control technologies for its low voltage (LV) network to help prepare for the growth of distributed energy resources (DER) use by consumers. The testbed would allow Vector to accurately test technologies and deploy them effectively across its network to improve visibility and service outcomes.

The focus of the Project will be on creating a scalable plan to improve load monitoring, health monitoring, and operational decision-making for the network. The testbed will help to inform the 'where, when, and how' of Vector's response to DER uptake.

LV Network Lab 1.1 covers the design, supply, installation, and testing of the new LV equipment, as well as the project management and dissemination of Project learnings.

¹ INTSA is provided for under the [Electricity Distribution Services Default Price-Quality Path Determination 2025](#) [2024] NZCC 28, Schedule 5.3 (the Determination).

LV Network Lab 1.2 covers the evaluation of LoRaWAN technology on its high voltage (HV) and LV networks as an alternative to cellular communications, and the establishment of the Project's data management infrastructure and capability.

Commission assessment of Vector's applications

To be eligible for INTSA funding, a project must meet the eligibility criteria set out in paragraph (6) of Schedule 5.3 of the Determination.

We consider the INTSA regulations do not allow us to approve an application with split levels of funding for more than 75% recovery of forecast costs. After consultation with Vector, Vector reapplied with two applications so that the work packages could be assessed solely against the relevant criteria.

We note Vector's two projects are heavily interdependent and share many of the same expected outcomes. For the purposes of assessing criteria 6(a) and 6(b), we have considered the projects as one.

Assessment of the eligibility criteria

(6)(a) – project relates to the supply of electricity distribution services

We consider that the Project relates to the supply of electricity distribution services, as the Project "provides additional monitoring and control capability for the lines service at the LV network to help with real-time monitoring of assets".

(6)(b) – project promotes the purpose of Part 4 of the Act²

We consider the Project promotes the purpose of Part 4, and in particular the s 52A(1)(a), (b), and (c) limbs of the Part 4 purpose, as follows.

- Creating a testbed will allow Vector to innovate the delivery and monitoring of its LV network to support future DER uptake. Vector will also have a better understanding of how to manage a complex LV environment (s 52A(1)(a)).
- The Project will improve understanding and visibility of Vector's LV network through proactive fault identification, improved condition monitoring, and more effective operational response capabilities, helping identify efficiency opportunities that can be applied network-wide (s 52A(1)(b)).
- It will strengthen Vector's capability to deploy remote monitoring and control technologies using LoRaWAN across both HV and LV networks, enabling better management of customer demand, integration of distributed energy resources (DER), and protection of network assets (s 52A(1)(b)).

Using the knowledge gained of the thresholds required for reliable use, Vector will be able to make more informed and targeted investments in its networks and pass on resulting efficiency gains to its customers (s 52A(1)(c)).

² Section 52A of the Commerce Act 1986 (the Act).

(6)(c)(i) – project is unlikely to otherwise result in any financial benefits to the EDB in the five disclosure years after expected delivery date

This criterion is required for a project to be eligible to recover up to 100% of the project costs. We consider LV Network Lab 1.1 satisfies this criterion.

LV Network Lab 1.1 is a pilot and information-gathering project designed to establish baseline conditions on an LV network and evaluate whether trialled technologies can materially improve network performance. The project is limited in scope, confined to a localised area, and primarily focused on research, testing, and evaluation rather than network augmentation or asset enhancement.

Based on the project's scale, objectives, and intended outcomes, we consider it unlikely that Vector will derive direct financial benefits from the project. Vector has confirmed that no charging model will be implemented as part of the project, and the project does not complement or substitute any of Vector's existing programmes in a manner that would create direct or indirect financial benefits.

The project is also subject to significant uncertainty, including uncertainty regarding the pace of distributed energy resource (DER) uptake and the timing and extent of any resulting impacts on network performance.

Taking these factors into account, we are satisfied that it is unlikely Vector will receive financial benefits from LV Network Lab 1.1 within the five disclosure years following the project's expected delivery date. We acknowledge learnings from the testbed may result in financial benefits in the longer term as Vector operationalises its findings.

By meeting this criterion, together with the criteria above, Vector is eligible for up to 100% recovery of the forecast costs of LV Network Lab 1.1 (\$3,500,800).

(6)(c)(ii) – the benefits of the project or programme are sufficiently uncertain that the EDB would not carry it out without the INTSA

This criterion is required for a project to be eligible to recover up to 75% of the project costs. We consider LV Network Lab 1.2 satisfies this criterion.

LoRaWAN technology has been used in other contexts within New Zealand, but some of the use cases Vector is testing are novel, such as undergrounding. Vector considers it needs to gather evidence to determine if LoRaWAN can provide consistent performance in its specific environments, some of which are complex, before committing to a wider network rollout.

The LoRaWAN trial is intended to assess whether it can provide a reliable, secure, scalable, and cost-effective communications solution at the scale required for operational deployment. We agree this introduces uncertainty to the project.

Vector is uncertain as to whether the data infrastructure and capabilities intended to be built for the testbed will provide meaningful benefits compared to the infrastructure already in place. Furthermore, the realisation of these benefits depends on outcomes from other work packages, which are also currently uncertain.

For the reasons above, we consider the benefits of the project are sufficiently uncertain that Vector would not carry it out without the INTSA.

By meeting this criterion, together with criteria 6(a) and 6(b), Vector is eligible for up to 75% recovery of the forecast costs of LV Network Lab 1.2 (\$795,000).

Next steps

With the INTSA applications now approved, Vector is eligible to draw down the forecast project costs of \$3,500,800 on project completion for LV Network Lab 1.1 and \$795,000 on project completion for LV Network Lab 1.2. The outputs from the projects specified by Vector are:

LV Network Lab 1.1:

- A high-resolution monitoring architecture encompassing both the HV and LV networks; and
- a final project report.

LV Network Lab 1.2:

- A comprehensive assessment of LoRaWAN as an alternative for cellular connectivity;
- end-to-end data management capability to support the LV Network Lab; and
- a final project report.

Should circumstances change, Vector may apply to us for permission to amend the forecast costs or outputs of either project.

Additionally, Vector must submit a closeout report to the Commission that meets the requirements in paragraph (14) of Schedule 5.3 of the Determination within 50 working days of completing both projects. Vector may submit a combined report for the projects. We will publish this approval letter on our website.

Nāku iti nei, nā

Matt Clark

Acting Head of Energy and Airports