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Ben Woodham

Electricity Distribution Manager
Commerce Commission
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By email: **infrastructure.regulation@comcom.govt.nz**

Horizon Energy Distribution Limited (Horizon Networks) INTSA application – Trial evaluation of GridAware Lite solution

1. Horizon Networks is writing to request approval to access $97,500 from the Horizon Networks DPP4 Innovation and Non-Traditional Solutions Allowance (INTSA) to support 75% of the costs associated with joining the GridAware Lite collaborative trial. The collaboration includes Northpower, Orion, Unison Networks, and WEL Networks — to accelerate the deployment and enhancement of GridAware Lite solution.
2. We consider that the Commerce Commission can approve 75% of the costs for this INTSA application because:
    - The application is consistent with Schedule 5.3 of the Default Price-Quality Path Determination.
    - The project is a short-term (estimated completion date of 31 December 2027), exploratory trial of an AI-enabled asset inspection technology that has the potential to significantly improve the identification of defects and emerging risks on overhead network assets.
    - Without INTSA funding, this project is unlikely to be funded from within Horizon Networks' operational expenditure allowance, given competing day-to-day priorities.
    - This application is to join the Unison's, GridAware Lite trial, which the Commerce Commission approved as an INTSA eligible project on 16 December 2025.
3. A completed version of the Commerce Commission's INTSA application form is attached as Appendix A.

About the GridAware Lite Trial

4. GridAware Lite is an AI-driven overhead network inspection and defect-detection platform developed by Google X's Tapestry programme. It uses high-resolution aerial imagery (from helicopters, drones, and street-level sources) to automatically identify assets, detect defects and generate insights through machine-learning models.
5. GridAware Lite is designed to support modern, data-driven asset management practices, and is particularly valuable for networks with older overhead infrastructure or areas where manual inspection is expensive, infrequent, or constrained by access and terrain.
6. For Horizon Networks, the GridAware Lite platform provides an opportunity to:
    - Enhance consistency and precision of defect detection and condition assessment
    - Identify emerging defects earlier and reduce the likelihood of unplanned outages.
    - Support improved maintenance planning, risk management, and lifecycle optimisation across a diverse portfolio of overhead assets.
    - Support standardisation of defect classification across the sector to improve consistency and collaboration
7. Horizon Networks seeks to participate in the GridAware Lite collaborative trial to assess whether this AI-enabled inspection method provides a more effective and efficient alternative to traditional, manual overhead inspections.

The application is consistent with Schedule 5.3 of the Default Price-Quality Path (DPP) Determination

8. Schedule 5.3 of the Default Price-Quality Path Determination sets out the process and criteria for a non-exempt EDB to submit a proposal to access its INTSA allowance for a specific project or programme.
9. Horizon Networks can confirm the application is consistent with Schedule 5.3 of the DPP determination because:
    - The application has been made at least six months before the end of the DPP4 period (31 March 2030)[1].
    - The application contains sufficient information to allow the Commerce Commission to determine if the project meets the eligibility criteria[2].
    - The specific information required in Schedule 5.3(4), and assessment against the eligibility criteria in Schedule 5.3(6) can be found in the INTSA application form in Appendix A.

Without an INTSA, this project is unlikely to be funded from within Horizon Networks' operational expenditure allowance

10. Without INTSA funding, the GridAware Lite trial is unlikely to stand up against day-to-day operational requirements and would accordingly be unlikely to be funded from within Horizon Networks DPP4 operational expenditure allowance.
11. While the trial may deliver valuable insights for Horizon Networks and the wider New Zealand electricity distribution sector, the benefits are exploratory, uncertain, and long-term, making it difficult to justify within current OPEX allowances without INTSA support.

75% of the costs can be recovered via INTSA because this trial will sufficiently uncertain that Horizon Networks would not carry out the project if it could not recover some of the forecast project costs

12. GridAware Lite has not yet been proven with sufficient certainty that Horizon Networks would undertake the project without the ability to recover some of the costs.
13. As noted in the Unison application, it is not certain:
    - How effective the GridAware Lite tool will be across a variety of EDB assets
    - What (if any) the financial savings there may be compared to conventional inspection methods
    - How many assets can be safely deferred for renewal, and for how long

Yours Sincerely

[redacted]

Jonathon Staite
Regulatory Manager

[redacted]

HORIZON ENERGY DISTRIBUTION LIMITED

[1] Schedule 5.3(3)
[2] Schedule 5.3(4)(j)

APPENDIX A: INTSA APPLICATION TEMPLATE

Voluntary administrative information	
Name of organisation:	Horizon Energy Distribution Limited
Key contact for project:	Jonathon Staite
Key contact role:	Regulatory Manager
Key contact email:	jonathon.staite@hegroup.nz

Summary table

Financial summary	Value ($000)
Recovery in this application	97.5
Allowance recovery approved in previous applications – EDB	65
Allowance recovery approved in previous applications – collaborative	110
Remaining allowance – EDB	1060
Remaining allowance – collaborative	167.5
Total allowance	1500

Eligibility criteria

Relates to the supply of electricity distribution services
Schedule 5.3(6)(a)

Explain how your project relates to the supply of electricity distribution services:

The Project relates to the supply of electricity distribution services. This software is intended to be used to detect and predict the health of the electricity distribution business's (EDB) assets, helping to inform when fixes or upgrades are required. Better monitoring of asset health and condition will help consumers receive a more reliable quality of supply from their EDB.

Promotes the Part 4 purpose of the Act
Schedule 5.3(6)(b)

Explain how your project promotes the purpose of Part 4 under s 52A(1) of the Commerce Act:

The Project promotes:
Part 4, section 52A(1)(a), because it is innovative and, if effective, is likely to encourage Horizon Networks to invest in its assets.
The Project is innovative as it is trialling the use of AI software to assess assets for condition and defects. The Project intends to provide Horizon Networks with more accurate asset condition information, which should improve Horizon Networks' ability to invest in upgrades and replacements at the appropriate time for the benefit of its consumers.
Additionally, through collaboration with other EDBs, we hope to develop a standard approach to defect classification, which could improve consistency of defect classification across the sector.

Part 4, section 52A(1)(b), because it has the potential to create efficiencies over the long term. If successful, the Project could provide a lower cost alternative to onsite asset condition checks and lead to better asset management practices.

Part 4, section 52A(1)(c), because it has the ability to create efficiency gains, which would be shared with consumers over the longer term. These efficiency gains would be through reduced operating costs and more efficient capital expenditure spend.

Explain how one or both of the following applies:
Schedule 5.3(6)(c)

The project is unlikely to otherwise result in any financial benefit to the non-exempt EDB for five years following the forecast completion of the project, and/ or the benefits of the project are sufficiently uncertain, such that you would not otherwise undertake the project.

1. *The project or programme is unlikely to otherwise result in any financial benefits to the non-exempt EDB in the five disclosure years after the date by which the non-exempt EDB indicates in its INTSA proposal that it expects all of the INTSA outputs to have been delivered:*

Unison has provided evidence to the Commerce Commission that the benefits of the 'Lite' version, if successful, will likely produce a financial benefit within a five-year period.
As a result, this application does not meet the threshold to be "unlikely" to result in any financial benefit.

2. *The benefits of the project or programme are sufficiently uncertain that the non-exempt EDB would not carry out the project or programme if it could not recover some or all of the forecast costs of the project or programme from the non-exempt EDB's INTSA:*

While AI-based inspection platforms show clear potential, Horizon Networks cannot yet confirm the accuracy, suitability, or cost-effectiveness of GridAware Lite platform for its network. The proposed trial is specifically designed to reduce this uncertainty by evaluating model performance, input data requirements, and suitability of model outputs to inform asset management decisions and to determine whether the technology is suitable for permanent adoption. Given its exploratory nature and the absence of short-term financial returns, the project would be unlikely to be funded from Horizon Networks' operational expenditure without access to INTSA; accordingly, without the ability to recover some or all forecast costs from INTSA, Horizon Networks would not carry out the project.

Project specific information

The project's purpose and EDB's intended steps to achieve that purpose
Schedule 5.3(4)(a)

INTSA outputs and expected benefits of the project for consumers:

Purpose

The purpose of the GridAware Lite platform trial is to evaluate whether AI-assisted aerial imagery analysis can improve the efficiency, accuracy, and effectiveness of Horizon Networks' overhead asset inspections and defect-detection processes.

If successful, the technology could become an additional toolset within Horizon Networks' asset management framework, supporting improved reliability, condition-based maintenance, and better long-term planning of overhead infrastructure.

Horizon Networks' steps to achieve this purpose

Horizon Networks will:

- Participate in the collaborative GridAware Lite platform trial.
- Prepare the training data set to the GridAware Lite platform. The training data set includes overhead asset imagery (drone or helicopter), geographic information, and associated defect and health condition information subject to the platform requirements.
- Upload the training data set required for model training and alignment.
- Review and validate AI-generated defect and insights output.
- Produce a close-out report outlining trial findings and recommendations for future adoption.

The outcome of this work will be an understanding of whether the GridAware Lite platform can support better defect identification and outputs, improved maintenance planning, and future cost-effective deployment across the Horizon Networks network.

Outline the outputs to be delivered in the supply of electricity distribution services by the project, and the expected benefits for consumers:

The outputs to be delivered in the supply of electricity distribution services by the project

As covered in the eligibility criteria section, the GridAware Lite platform trial is directly related to Horizon Networks' regulated electricity distribution service.

The output of this project is to trial the use of AI-enabled imagery analysis to improve overhead asset inspection.

The key output of the trial will be a report outlining the learnings, including the effectiveness of training data set development, automated defect detection, validation of the inspection outcomes, together with an assessment of whether wider implementation would improve Horizon Networks' ability to identify asset risks earlier, optimise maintenance practices, and deliver long-term value to consumers.

Consumer benefits

As noted above, the GridAware Lite platform trial will allow Horizon Networks to make an informed decision on the use of AI-enabled imagery analysis to improve overhead asset inspection and defect detection.

If the trial is successful, Horizon Networks will be able to use this technology to identify asset defects earlier and more accurately and prioritise maintenance based on condition.

Better and more timely information will support improved asset management decisions and reduce the risk of unforeseen asset failures. This means fewer unplanned interruptions, improved public safety, more efficient use of maintenance and capital expenditure, and a more resilient electricity network for consumers.

Estimated delivery date for outputs

Schedule 5.3(4)(b) and (c),

Outputs:	*Date:*
A close-out report outlining the GridAware Lite trial's outcomes, with a focus on:	March 2028

• Application of AI-assisted imagery analysis to overhead assets • Validation of AI outputs • Ability to utilise AI outputs to support intervention decisions	

Estimated annual forecast costs of project
Schedule 5.3(4)(d)

Set out the forecast project costs on an annual basis until the date by which you expect to have delivered the project outputs:

The forecast costs are $130,000 to procure, install and trial the software platform.

The trial is estimated to be completed by 31 December 2027.
The close-out report will be published and provided to the Commerce Commission within 50 business days.

Proportion of forecast costs that EDB wishes to recover
Schedule 5.3(4)(e)

Set out the proportion of the forecast project costs that you wish to recover. If the proportion is greater than 75%, explain why the project is unlikely to otherwise provide any financial benefits to the EDB within 5 years of the forecast completion date in the EDB's INTSA proposal:

Horizon Networks requests approval to recover 75% of the project costs through this INTSA proposal.

Any anticipated SAIDI INTSA values and SAIFI INTSA values
Schedule 5.3(4)(f)

Outline any anticipated SAIDI and SAIFI values for interruptions directly associated with the project ('SAIDI/ SAIFI INTSA values'):

The project is not anticipated to directly impact SAIDI and SAIFI performance.

Cause or causes of the anticipated interruptions on SAIDI or SAIFI values
Schedule 5.3(4)(g)

Outline the cause or causes of the interruptions for any anticipated SAIDI INTSA values and SAIFI INTSA values, where the cause of each such interruption is directly associated with the project or programme for the INTSA proposal:

The project is not anticipated to directly impact SAIDI and SAIFI performance.

Steps taken, or proposing to take, to reduce likelihood or impact of interruptions on consumers
Schedule 5.3(4)(h)

Outline the steps you've taken, or are proposing to take, to reduce the likelihood or impact on consumers of interruptions for any anticipated SAIDI INTSA values and SAIFI INTSA values:

The project is not anticipated to directly impact SAIDI and SAIFI performance.
As a result, no steps have been taken to reduce the likelihood or impact on consumers.

Indication of whether project is collaborative
Schedule 5.3(4)(i)

Indicate whether the EDB intends to work together with one or more other EDBs to carry out the project and, if so, how it intends to work together with the other EDBs:

This is a collaborative project.
The GridAware Lite platform is being trialled collaboratively across several New Zealand EDBs. Through participation:

- Horizon Networks will contribute imagery and network insights.
- Horizon will share learnings with other participating EDBs.
- All EDBs will benefit from collective model improvements and shared understanding of the platform's capability.

Other supplementary information)

Space for the EDB to provide supplementary information the EDB wants to provide that does not fit under any of the previous headings:

Horizon Networks and its predecessors have been providing electricity distribution services to the Eastern Bay of Plenty for over 100 years. The network includes a significant population of overhead line assets operating in diverse environmental conditions, including coastal, rural, and high-vegetation areas. These conditions accelerate deterioration mechanisms such as corrosion, hardware fatigue, cross-arm cracking, and vegetation encroachment, increasing the risk of asset failure and service interruptions for consumers.

Historically, overhead assets have been managed through periodic ground-based visual inspections, aerial inspections, and time-based maintenance cycles. While this approach provides a structured inspection regime, it relies heavily on manual processes, sampling, and inspector judgment. It can also result in:

- Variability in defect detection due to access constraints or human factors.
- Limited visibility of emerging defects between inspection cycles.
- Reactive maintenance following failure rather than earlier intervention.

As the network ages and demand patterns evolve, improving the quality, consistency, and timeliness of inspection data becomes increasingly important to maintaining reliability and managing long-term costs.

To address these challenges, Horizon Networks intends to trial the GridAware Lite platform, an AI-enabled overhead asset health assessment and defect detection platform developed in collaboration with Google X through its Tapestry initiative.

This initiative aligns with the objectives of Part 4 of the Commerce Act, as it seeks to improve asset management efficiency, enhance reliability, support better capital planning, and deliver long-term benefits to consumers.

Solution overview

The GridAware Lite platform aggregates and analyses imagery of overhead assets to create a time-stamped visual record of poles and line components. Machine learning models process these images to detect defect conditions, which can then be reviewed and incorporated into existing asset management systems.

Key features include:

- AI-assisted defect detection for overhead structures and line components.
- Creation of an asset register with defect classifications and confidence scores.
- Scalable inspection coverage using aerial imagery, reducing reliance on manual-only inspections.
- Collaborative model improvement through shared learning across participating EDBs.

Unlike a fully integrated deployment, the GridAware Lite platform operates as a lower-risk, collaborative trial platform, allowing Horizon Networks to evaluate effectiveness before committing to broader system integration.

Goals

The goal of the GridAware Lite platform trial is to help Horizon Networks and participating EDBs understand how AI-enabled imagery analysis can be used to:

- Improve the accuracy and completeness of overhead asset data.
- Detect defects earlier and prioritise maintenance based on condition and risk.
- Improve inspection efficiency and reduce operational costs over time.
- Support more targeted renewals and avoid unnecessary replacements where the condition does not justify them.

The trial will generate practical learnings on technical performance, cost-effectiveness, and operational integration. If successful, the technology could become an additional asset management tool to strengthen network reliability, improve safety oversight, and deliver sustained value to consumers through more informed, data-driven decision-making.