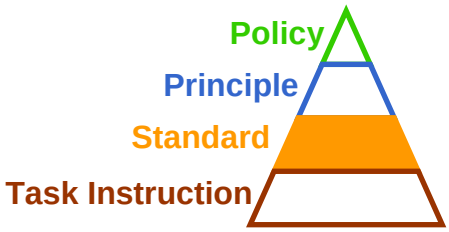


General Standard

# Operating Unmanned Aerial Vehicles (UAV)

## Purpose

This document specifies the requirements for operation of UAV (Drones) and their use in the rail corridor, applicable to use by both internal and external resources.

## Document Control

| | | | |
|---|---|---|---|
| **Document No.** | G-ST-AL-9208 | **Issue No.** | Issue 1.1 |
| **Date Effective** | 21/02/2025 | **Author** | |
| **Prepared (P) Reviewed (R) Amended (A)** | Blair Twaites, Tom Revell, Jasen Cronje (A) | **Checked and Approved By** | Engineering Services Interface – Technical Committee |
| | | **Authorised for Release By** | Technical Director – Engineering & Asset Management |

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Signed by Chris Wakeling on: 25/02/2025 9:23:04 AM 4112

# 1. Revision Procedure and History

This is a 'living' document, that will be updated every five years or whenever KiwiRail determines that changes to it and processing requirements documented herein are appropriate.

If changes arise from the review this document will be reissued, however, if no changes arise from the review, the current version of this document will remain in force.

Refer to the **Briefing Note(s) for G-ST-AL-9208 Operating Unmanned Aerial Vehicles (UAV)**

and **Document History** (at the end of this document) for full document changes.

| Issue No | Prepared (P) Reviewed (R) Amended (A) | Authorised for Release By | Date Effective |
|---|---|---|---|
| 1.0 | Hamish Smith Daniel Headifen (A) | Technical Director - Infrastructure | 01/07/2016 |
| 2.0 | Blair Twaites, Tom Revell, Jasen Cronje (A) | Technical Director – Engineering & Asset Management | 21/02/2025 |

## 1.1 Changes in this issue

| Issue No | Section | Description | Page(s) |
|---|---|---|---|
| 2.0 | 7 | Removed summary of rules | 8 |
| 2.0 | 8,9,10 | Added new sections | 9 - 11 |
| 2.0 | 13,14,15,16 | Added new sections | 15 - 16 |

## 1.2 Withdrawn, closed and superseded

| Old Reference | Title | Replaced by |
|---|---|---|
| | | |

# 2. Associated Documents

| Level | Number | Title |
|---|---|---|
| | E-ST-TR-0159 | Use of Machines Near Traction Overhead Line Equipment |

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# Table of Contents





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# 3. Acronyms and Definitions

| Acronyms | Definition |
|---|---|
| CAA | Civil Aviation Authority |
| Certificate of achievement | A document issued by a Civil Aviation Authority (CAA) Rule Part 141 certified training organisation which indicates the document holder has undertaken training on aviation operating airspace requirements, risk recognition and mitigation, incident reporting and a practical drone flying assessment, thereby substantiating the ability of the pilot to safely operate drones under the Civil Aviation Rules (CAR) Part 101. |
| Certified Drone Pilot | Means the individual responsible for the safe and compliant operation of a drone, who has completed required training and associated operating competency assessments, and holds required authorisations as specified below:<br>For drone operations carried out under<br>Civil Aviation Rules Part 101:<br>• Completed Part 101 theory and working towards a 'certificate of achievement'. Or,<br>• Part 101 certificate of achievement.<br>For drone operations carried out under Civil Aviation Rules Part 102, is a named pilot in the CAA approved Part 102 Exposition or the holder of an air operators certificate issued by CAA and operates within the privileges granted under the Part 102 Unmanned Aircraft Operator Certificate. |
| Chief Pilot | Responsible for ensuring the safety, training, competency, compliance and operational procedures for all drones and pilots. They sit within the Drone Centre of Excellence Group. |
| DJI | Da-Jiang Innovations (Drone Manufacturer) |
| Drone Centre of Excellence Group | Group within KiwiRail, responsible for:-<br>• ensuring a unified approach when operating drones<br>• Setting guidelines for operations and data management<br>• Managing drone fleets and pilot certification.<br>• Supporting inspections, surveys, and projects<br>• Streamlining drone procurement and asset tracking<br>• Streamlining training requests<br>• Ensuring pilots adhere to the CAA regulations |
| Flight Plan | A KiwiRail flight plan is authorised by the identified authorities using the Air Share App prior to any drone flight, and consists of:<br>• determining the proposed flight schedule and any flight envelope restrictions,<br>• image or video capture requirements and specifications to meet the data image goals of the job or mission, and<br>• a risk assessment including a 'before launch' site hazard review. |
| ICT | Information and Communications Technology |



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| | |
|---|---|
| LiDAR | Light Detection And Ranging |
| Notifiable Event | Any incident which requires reporting to a regulator or organisation as defined by legislation. |
| ORA | Operational Reporting Architecture is KiwiRail's event reporting platform used for incidents/hazard/near miss reporting and for entering Safety Health and Environment (SHE) work conversations. |
| Part 102 exposition | A Part 102 exposition is a comprehensive document required by the New Zealand Civil Aviation Authority (CAA) for the certification of unmanned aircraft operations that fall outside the standard rules of Part 101. This exposition serves as a detailed operational manual that outlines how an **organization** will safely conduct its drone operations, including:<br>• Identifying Hazards and Risks: It must show that the operator has identified potential hazards and risks associated with their drone operations.<br>• Mitigation Strategies: It should detail the procedures and policies in place to mitigate those risks.<br>Operational Procedures: This includes specific procedures for the operation, maintenance, and management of the drones.<br>• Safety Management Systems: The exposition must include a safety management system that ensures ongoing compliance with safety standards.<br>• Qualifications and Training: It should outline the qualifications and training of personnel involved in the drone operations.<br>The exposition is tailored to the specific operations of the applicant and must be thorough enough to demonstrate compliance with the relevant aviation rules and regulations. |
| RPAS | Remotely Piloted Aircraft Systems |
| Trainee Pilot | Means the individual responsible for the safe and compliant operation of a drone, who is in the process of completing required training and associated operating competency assessments. |
| UAS | Unmanned Aerial Systems, alternative terms are remotely piloted aircraft systems (RPAS); unmanned aerial vehicle (UAV); 'drones' or model aircraft. |
| UAV | Unmanned Aerial Vehicles, see definition for UAS. |
| Visual Observer | A person who satisfies CAA competency requirements for acting as a visual observer. They are to maintain visual line of sight of the drone and the airspace the drone is flying in while always maintaining effective communication with the drone pilot. The visual observer is to see the drone's height, flight direction, and any airspace hazards with the purpose of identifying and providing early warning to the drone pilot of any potential collision hazards. |

## 3.1 Notes, caution and warnings

| Icon | Definition |
|---|---|
|  | Note(s) to point out something of special importance |
|  | Caution or warning – drawing special attention to anything of important reminder or a safety message |

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# 4. Scope

This document provides access to industry rules and regulations, specific KiwiRail requirements and good safety practices around using an Unmanned Aerial System (UAS). The more common alternative terms are remotely piloted aircraft systems (RPAS); unmanned aerial vehicle (UAV); 'drones' or model aircraft. The generic term 'drone' is used in this Standard to mean all remotely piloted aircraft systems.

It is a requirement that the pilot of a drone understands and fully complies with the governing Civil Aviation Authority Rules around operating a drone. This document refers to these rules and sets out some specific requirements for operation in the rail corridor by KiwiRail staff, service providers and third parties.

# 5. Use in the field

This document has been designed to be used in the field. It is expected that this document will be opened in an iPad via Sharepoint and used as reference to complete the task. Note as written on the front cover the controlled version is held on KiwiRail EDMS, and controlled copies are available through SharePoint All other electronic copies and all printed versions are uncontrolled.

# 6. Introduction

Drones, Unmanned Aerial Systems (UAS), Unmanned Aerial Vehicles (UAV), Remotely Piloted Aircraft Systems (RPAS) are all different terms that are used interchangeably. Drones have become common usage by the public, though the Civil Aviation Authority (CAA) prefers RPAS as it implies more pilot control. KiwiRail uses the term UAV or drone.

This Standard generally covers operation of small UAV (under 25kg), which in most circumstances are operated under CAA Rules Part 101. Larger UAV should be operated by experienced and qualified professionals, and conform to the requirements of CAA Rules Part 102.

KiwiRail may engage with specialist contractors as their more advanced UAV can do more advanced tasks such as ground controlled topographic survey of larger areas.

UAVs are useful tools to gain site information that is otherwise very expensive to gather using helicopters, or unsafe to gather on foot. When used correctly, UAVs can provide high quality information and provide a safe means for inspecting difficult areas reducing occupational hazards.

This document provides access to industry rules and regulations, specific KiwiRail requirements for use in the rail corridor and potential safety risk around using these tools. The requirements of Heath and Safety legislation and regulation should be met at all times. http://www.business.govt.nz/worksafe/hswa

| | |
|---|---|
|  | CAA rules and regulations must be complied with when operating a UAV for KiwiRail and this document is to support those rules. |



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# 7. Civil Aviation Authority (CAA) Rules

It is a requirement the pilot of a UAV understands and complies with the governing Civil Aviation Authority Rules around operating UAV at all times.

Section 7.1 provides links to resources that shall be read by UAV pilots. If there is any discrepancy or ambiguity between this document and CAA Rules, the CAA Rules shall be taken to govern.

## 7.1 Resources

Operators of UAV shall be familiar with the following resources.

**CAA Drones Website**

https://www.aviation.govt.nz/drones/

This website provides details of rules from the Civil Aviation Authority of New Zealand and their applicability to use of UAV.

**Industry Information Site Airshare**

This website has a large amount of information and guidance about use of UAV. The website also has functionality for applying for approval to operate near aerodromes and controlled airspace.

http://www.aip.net.nz/Home.aspx

This website provides information about airspace restrictions that may apply.

www.privacy.org.nz

This is the website for the Office of the Privacy Commissioner, and provides a full copy of the Privacy Act and useful guidance.

### 7.1.1 Privacy

You should not film identifiable individuals without their consent, whether our staff, contractors, or members of the public. You must comply at all times with the Privacy Act and KiwiRail's Privacy Policy, including ensuring that any collection of personal information is reasonably necessary to fulfil the purpose for which it is collected.

If filming individuals who are identifiable is unavoidable, you must ensure that you have proper processes in place for ensuring those individuals consent to being filmed, and in relation to the security, retention and destruction of personal information. Contact KiwiRail's Legal team for assistance.

Link to the Privacy Act 1993:
http://www.legislation.govt.nz/act/public/1993/0028/latest/DLM296639.html

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# 8. Competency and Certification Training

The NZ CAA does not require a Drone pilot to have a specific drone pilot certification when operating under Part 101 rules, but pilot must understand and abide by the NZ CAA Part 101 rules when operating Drones. To align with industry best practice and support KiwiRail developing a Part 102 Exposition, all regular KiwiRail Drone pilots are encouraged to complete a CAA Rule Part 101 training course by a certified approved CAA training provider (which includes a practical competency flight test) and receive pilot certification as a priority. This must be recertified every three years.

All drone pilots operating on behalf of KiwiRail (internal employees or external providers) must adhere to the relevant CAA regulations. It is a requirement of the pilot to understand the governing CAA rules and always abide by these rules. As a minimum, drone operators (whether KiwiRail personnel or external providers) are required to have a basic level of proficiency and be able to manoeuvre the aircraft to and from the landing/take-off area without autopilot assistance.

External providers of UAV services or any third parties wishing to use a UAV in the rail corridor are required to provide details of qualifications (a minimum of Part 101 certification), training and/or experience to KiwiRail when requested, before KiwiRail staff allow them to undertake flights. This information should be provided prior to engaging the provider or, alternatively, during the Permit to Enter process as covered in Section 12.3 of this standard.

For internal drone operators, there are two levels of competency considered within KiwiRail;

- **Certified Drone Pilots** (accredited with Part 101 or Part 102 training)
- **Trainee Pilots** (completion of theoretical (online) training on operating rules, and in-training for practical competency)

All drone operators both Certified Drone Pilots and Trainee Pilots shall be registered within KiwiRail's Drone Pilot Register, which can be found in the Drone Centre of Excellence SharePoint page.

All drone operators shall be working to become Certified Drone Pilots, which are required to have completed a CAA Rule Part 101 training course by a certified approved CAA training provider (which includes a practical competency flight test).

'Pilots in Training' must complete an accredited CAA Rule Part 101 training course to verify their competency and understanding of the operational rules relating to Part 101. On successful completion of the theoretical course, a "Trainee Pilot" may operate a drone on behalf of KiwiRail under the following conditions:

1. The "Trainee Pilot" is mentored by a Certified Drone Pilot (on-site supervision is at the discretion of the mentor pilot)
2. The "Trainee Pilot" is operating a drone in accordance with NZ CAA Part 101 rules.
3. The "Trainee Pilot follow the processes outlined in this Standard.

It important that all KiwiRail drone pilots can operate the drone safely, considerately and to comply with all legal requirements to:

- prevent any harm and unnecessary risk and therefore avoid any potential prosecutions, fines or adverse publicity for the drone pilot and KiwiRail.



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- protect the environment and observe required safe operating distances from protected wildlife and national parks.
- respect Māori cultural values by consulting with hapū and iwi where required.
- consider people's entitled privacy.

# 9. General Mandatory requirements

All KiwiRail drone pilots are to:

- be appropriately trained and skilled in operating the drone safely and responsibly.
- comply with all CAA 101 and 102 rules as applicable for the individual's status/ licence.
- identify and mitigate all applicable operating site hazards which could impact on the safe operation of the drone or result in any harm from the drone.
- comply with information management and security requirements for data obtained by the drone.
- ensure the drone is in an airworthy condition throughout the entire flight, and the drone's associated operating systems are fully functional to ensure the drone is always operated in controlled flight

All drone operations must be carried out by a KiwiRail approved 'drone pilot' or "Trainee Pilot" as defined in this Standard.

Service providers of drone services are to provide evidence of suitable public liability insurance covering the use of the drone prior to the drone's flight(s).

A flight plan and SSSP is to be completed by the drone pilot for all drone flights. The flight plan is to cover a risk assessment of all known site hazards, including any typical hazards which could occur during the flight.

Where possible, a trained visual observer is to assist the drone pilot with identifying any site hazards during the flight.

To ensure the drone operates reliably as designed, there must be documented records and evidence that the drone and associated systems have been serviced and maintained in accordance with the manufacturer's requirements.

In the case of a notifiable incident occurring with the drone, the drone pilot is responsible for informing their manager as soon as possible. The drone pilot is to also ensure the incident is entered into the KiwiRail incident database (ORA) and advised to the appropriate regulatory agency within the required reporting timeframes.

The drone pilot is responsible for ensuring all data and imagery obtained from a drone is saved securely and any identifying recognizable features obtained without the consent of the individual or owner, is altered/obscured to provide anonymity.



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# 10. Drone Specific Requirements

All drones flown by KR drone operators need to meet the requirements aligned with the individual operator's certification, refer NZ CAA Part 101.

All drones purchased by or on behalf of KiwiRail, or operated by drone service providers, are to meet the following minimum criteria:

- have the ability to limit the maximum height above ground level (i.e. elevation ceiling) and range of the drone from the drone pilot.
- have the ability to return to the launch site automatically when the connection with the controller or ground control station is lost, or the drone battery capacity reaches a pre-determined level.
- have the ability to record imagery (onboard or transmitted to a ground control station) and retrieve flight data.
- have obstacle avoidance capability.
- have a flight stabilisation system which allows the drone to maintain a position in space without any control input from the drone pilot.
- All KiwiRail owned UAVs must be registered with ICT and clearly labelled on the outside of the drone with:
    - The company name.
    - The company phone number.
    - Asset number

# 11. Recommended Equipment and Expertise

KiwiRail utilises standard unmodified DJI aircraft and follows the manufacturer's maintenance and airworthiness guidance. All aircraft are purchased new from an authorised DJI supplier (Ferntech), guidance should be sought from the Drone Centre of Excellence and Ferntech when making decision on the correct drone to purchase for the desired activity.

A suitable trained and experienced Drone pilot can produce an accurate 2D, 3D photogrammetric model to support planning, monitoring and inspections of KiwiRail assests. They can also produce, using the appropriate equipment, a LiDAR scan model to accurately map and model KiwiRail assets and the rail corridor.

Where detailed topographic survey output is required from the operation, a registered surveyor should be consulted to ensure suitable quality of information.

Survey informatic 3D models produced using a UAV not operated by registered surveyors should be considered for information only, and all measurements will need to be ground truthed.

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# 12. KiwiRail Specific Rules

In addition to the CAA Rules, KiwiRail require the following of its staff and contractors:

## 12.1 Don’t endanger the safety of anyone

Use common sense, never show off, and do not fly unpredictably. Be proficient in operating the UAV before using it in the corridor, understand the limitations of the technology and be aware of the conditions and the environment. Notify work groups near your area of operating of your intentions to prevent surprises and distractions.

## 12.2 Don’t endanger the safe running of trains

Consider the perspective of a Locomotive Engineer or Operator – do not do anything that may needlessly distract them or otherwise affect a train.

This includes:

- Not taking off or land in a position that will interfere or come between a signal and the view line of an approaching rail vehicle unless arrangements have already been made with the operator.
- Not be flown in a manner that could cause distraction to the driver, including flying between a signal and the view line of an approaching train or Hi-Rail Vehicle unless arrangements have already been made with the operator.
- When operating near trains, follow track safety rules and minimum approach distance.

## 12.3 Obtain permission for work on KiwiRail land

People who are not KiwiRail staff must follow the normal Permit to Enter process and gain permission for carrying out a flight over KiwiRail land. Consult the KiwiRail public website for the process for obtaining a Permit to Enter.

http://www.kiwirail.co.nz/

Compliance with this Standard does not warrant that a Permit to Enter will be provided and KiwiRail retains the right to decline permission for any reasons it sees fit.

KiwiRail may also require third parties to enter into filming agreements that cover ownership and use of footage (for example, where footage is shot for broadcast or a television commercial or programme). Refer to KiwiRail’s Communication team.

## 12.4 Site specific safety plan (SSSP)

A Site-Specific Safety Plan, as per any work that is to happen for KiwiRail or in KiwiRail land, should be provided. Consult with the local staff responsible for the section of land that you wish to fly over for establishing what are the minimum requirements for your Site Specific Safety Plan.



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## 12.5 Rail protection requirements

The Drone pilot is responsible for ensuring they have suitable safe systems of work to allow the UAV to reach your take-off and landing location safely.

For all Wellington and Auckland Metro Network flights, if the proposed flight is within the active corridor, consideration to a suitable rail protection method will need to be assessed and organised as required. This also applies for accessing the take-off and landing location.

For all non-metro network flights, consideration to a suitable rail protection method fly over the active corridor should be considered in the SSSP, however protection will still be required if entering the active corridor at any time on foot, this should also consider the take-off and landing areas.

When operating without rail protection; prior to flying, a phone call to local train control with flight location, pilot name, duration and basic objectives is required.

## 12.6 Advise people onsite

Everyone who will be in the vicinity of the UAV when it is being used should be advised of its presence and of the hazards it may present to them, and, where they are being filmed and will be identifiable in filmed footage, to seek their consent to this (Refer to section 7.2.4 in relation to privacy).

People should stand back 2m from the UAV during take-off and landing.

You can upset people and give them a fright if they are surprised by a UAV, therefore you should make sure that everyone present knows that a UAV is being used. Avoid flying low over people's heads.

## 12.7 Avoidance of distraction of personnel working on the railway network

Distraction of those doing Rail Safety Work must be avoided. This should be considered when preparing your Site-Specific Safety Plan that you are aware of what other personnel will be on site and may be distracted by the UAV flight and that you have put in place mitigations so as to not distract those working on the railway network.

Mitigations may include pre planning to avoid the UAV coming into line of sight of such personnel or suitably comprehensive briefings to make them aware of the nature of the flight and agreement from them that it will not be a distraction.

## 12.8 Safe landing/take-off location

Plan to have take-off/landing areas in clearings, off track and locations that are safe. Sandy, wet, soft, or rocky land should be avoided due to potential for affecting your ability to control the UAV during take-off and landing and for causing damage to the UAV or risk to safety of any person, including the pilot.



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There have been reports of control systems not working properly when attempting to take off or land between the rails of train tracks. There is some uncertainty as to whether this is due to electromagnetic effects of induced current in the rails or some other issue – you must not attempt to find out by trial and error.

## 12.9 Overhead Line Equipment – Traction wires

In areas where there are overhead traction lines, the pilot must keep the UAV a minimum of 0.5m away from the traction overheads, and any other power lines or substations.

Try not to get wires between the pilot and the UAV as wires may interfere with the remote signal.

For working near third party lines, refer to NZECP 34-2001 - NZ Electrical Code of Practise for Electrical Safe Distances.

## 12.10 Keep out of private land

UAVs should remain over railway property unless you have permission from private landowners or local authorities, unless drones are operating under CAA Rule 102 with a registered flight plan.

## 12.11 Log the flight

Check your flights aren't within controlled air space. If the flight path is within controlled airspace or within 4km of an aerodrome, the flight should be logged on airshare.co.nz. This site can be used to check where controlled airspace is and advice of operation within the controlled airspace. Log your flight via airshare.co.nz and the DJI controller, so it can be tracked of how many hours you have flown with each UAV.

## 12.12 Check the weather

Wind and rain should not prevent the UAV from being easily piloted at the appropriate distances from all obstacles. Recommended maximum sustained wind speed is 20 km/h, and preciptation should be zero (exceptions may be made for specialist drones that are kept within manufacturers recommended range).

## 12.13 Check the gear

Aircraft, navigation instruments (compass and inertial navigation unit) and batteries should be checked and fully charged before flying. Full pre, turnaround and post flight inspections should be carried out and recordered along with battery usage and management.

## 12.14 Plan the route

Flights should be carefully planned with routes sketched down before take-off, ideally on Google Earth, to check estimated altitudes of barriers and safe locations for take-off and landing.



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## 12.15 Fixed wing UAV

Fixed wing UAV can only be used by operaters with certification under CAA Rules Part 102.

## 12.16 Operation in tunnels, narrow spaces, and close to structures

Technology is being developed that will allow UAVs to operate in confined spaces such as tunnels, culverts, and close (closer than 4m) to structures such as lighting towers, with the intention of reducing the need for people to access these higher risk areas. The appropriate, flight planning risk assessments will need to be completed prior to undertaking these tasks.

UAV operations in small spaces (e.g. tunnels, culverts) or places without GPS, shall be undertaken by a trained and competent pilot under an approved Site-Specific Safety Plan (and Permit to Enter if applicable), using a fit for purpose UAV.

# 13. Internal Assurance

KiwiRail's Drone Centre of Excellence Group is responsible for monitoring and ensuring the safe and compliant operation of all drone activities in accordance with this policy.

Routine audits shall be conducted, and the results recorded quarterly which provide confidence that drone activities are being conducted responsibly, are compliant with all legal requirements and best operating practices.

This Standard will be assessed periodically using a control verification review and if appropriate, revision will be undertaken as necessary to maintain its on-going relevance in managing KiwiRail SHE management obligations.

# 14. Drone Maintenance Standards

Drone pilots should take particular care in the handling, storage, charging and replacement of Li-Po batteries due to the inherent hazards from these items. The Intelligent Flight Battery Safety Guidelines for the model of drone will be followed. This information is available from the DJI website.

All drones shall be inspected in accordance with the manufacturer's maintenance manual (200 flights or 50hrs, whichever comes first). This task must be performed by a competent person who has been authorised by the chief pilot.

Additionally, all drones must obtain a maintenance check every 12 months from an appropriately qualified independent maintenance provider. Records of all maintenance conducted on each aircraft will be recorded in the assets register

To capture the hours flown pilots are to use the automatically uploaded flight details recorded in the control system, such as DJI Pilot.



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# 15. Life-Cycle Management

All UAV procurement, registration, maintenance and disposal shall be undertaken through the KiwiRail's Drone Centre of Excellence Group. Purchasing or decommissioning of UAVs without approval from the KiwiRail's Drone Centre of Excellence Group is not allowed. KiwiRail's Drone Centre of Excellence Group can be found at the following sharepoint page. https://kiwirail.sharepoint.com/sites/HUB_CPADDgtEng/SitePages/UAV-Drone-Centre-of-Excellence.aspx

# 16. References

- Civil Aviation Act 1990
- Civil Aviation Authority of New Zealand: RPAS, UAV, UAS, Drones and Model Aircraft, Civil Aviation Rules Parts 12, 101,102 and 141
- Privacy Act 2020
- Public Records Act 2005
- Protected Disclosures Act 2000
- Human Rights Act 1993
- Health and Safety at Work Act 2015
- Parks and Reserves Bylaw 2007
- Public Places Bylaw 2006

**KiwiRail:**

- Privacy Policy
- Information Security Policy

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# Briefing Note(s) for G-ST-AL-9208 Operating Unmanned Aerial Vehicles (UAV)

**Date Effective** 21/02/2025 **Issue No.** Issue 1.1

## Background

This document provides access to industry rules and regulations, specific KiwiRail requirements and good safety practices around using an Unmanned Aerial Vehicle (UAV).

## Key changes / compliance

See Section 1.1 for changes

## Implementation

As of the effective date of this document

| **Applicability (Select relevant boxes)** | **General** | **Civil** | **Control Systems** | **Structures** | **Signals** | **Track** | **Traction and Electrical** |
|---|---|---|---|---|---|---|---|
| Zero Harm | | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ |
| Learning and Development | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Project Management Office | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Manager Property Revenue and Grants | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| National Train Control Centre | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Engineering Services Manager | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| National Supply Chain and Distribution Manager | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Professional Head | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ |
| Network Services Managers | ☐ | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ |
| Region Operations Managers | ☐ | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ |
| STTE Managers | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Production Managers | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Asset Engineers | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

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# Document History

**Note** page numbers relate to the document at the time of amendment and may not match page numbers in current document.

| Issue No. | Section | Description | Page(s) |
|---|---|---|---|
| 1.0 | All | New document | All |
| 2.0 | All | Used to be C-TI-GN-4208 Operating Unmanned Aerial Systems Document updated | All |

Signed by Chris Wakeling on: 25/02/2025 9:23:04 AM 4112