

# Response to the Civil Aviation Authority Rule Changes August 2015

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## Policy

The following two requirements represent the agreed policy for managing the access requests for remotely piloted aircraft systems (drones), namely:

1. That the airspace over any State highways road corridor is unavailable to recreational operators because the level of public risk is unacceptable and there are more appropriate areas available to such operators; and
  2. Requests for access to State highway corridors will only be accepted from operators of a remotely piloted aircraft system if they are certified by the Civil Aviation Authority (CAA) in accordance with the Civil Aviation Rules Part 102.
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## Other Specific Matters to be Addressed in any Approval

1. No remotely piloted aircraft system shall be operated over a live traffic lane unless it is delivering State highway services, it is airworthy and it has built-in safety devices that acceptably limit possible impacts on public safety.
  2. Operators of remotely piloted aircraft systems requesting access to other NZTA land, especially construction sites, are required to demonstrate that they have suitable training and experience similar to those operators requesting highway access.
  3. No operator shall fly a remotely piloted aircraft system over a live work site without the direct agreement of the site crew and their employer and having suitable safety measures in place.
  4. Approval of requests for access for operation of remotely piloted aircraft systems to be on a case by case process based on risk assessment and mitigation with a case specific safety mitigation plan for each application.
  5. Note that as operators requesting access to highways can be deemed to be working and that working on, over or under State highways requires written approval (s.51 Government Rounding Powers Act), it can be held that Civil Aviation Authority approval does not give any operator automatic access to any highway. Requests for access should be tied back to the same process as used for managing Corridor Access Requests including the traffic management plan.
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Explanatory

1. The notification requirements included in the Civil Aviation Rules Part 101 (last two requirements) mean that it would be fairly impracticable to try to fly over a live road under that Rule. Therefore any operators on roads with traffic would practicably need to be certified under Civil Aviation Rules Part 102.
  2. Certified operators are required to have a safety management system in place that covers both the operator and the machine. This meets our requirements for safety under live road conditions. Where the road is closed or for other NZTA land, including construction sites, then operation is possible under Rule 101 but a safety plan should be a condition of access.
  3. There are operators such as the Police, our contractors and other suppliers who might want to operate over highways that are closed. The expansion of the technology means that a number of new uses have already become apparent, such as photo surveys, inspections, publicity etc. It is essential not to close out opportunities the technology enables but balance that with managing the risks.
  4. All remotely piloted aircraft system operators must abide by all regulations from the International Civil Aviation Organization and the Civil Aviation Rules.
  5. Note that long established aero-model clubs operating at well-established sites are excused from the Civil Aviation Rules and therefore from this process. At least two such sites are known: south of Levin and at Matamata airfield, which affect State highways directly. All that is required is to assure that any events at these sites are well managed and controlled.
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Criteria for Flying Over High-risk Infrastructure (Under Civil Aviation Rules Part 102)

1. There are two sets of zone controls that affect approvals for operations of RPAS adjacent to airports. Firstly, as part of the international regulations, all of the international airports in New Zealand (Auckland, Rotorua, Wellington, Christchurch, Queenstown and Dunedin) are listed as having Category B protection, which consists of a 0.6 mile (1 kilometre) no-fly exclusion zone for RPAS. A number of sections of State highway pass through those exclusion zones and no approvals shall be given within those no-fly areas. Secondly there is a section in the Civil Aviation Rules that applies a controlled flying zone for 4 kilometres from the boundary of any aerodrome and the Rule requires both certification from the CAA and permission from the operator of the aerodrome to fly a RPAS. There are significant airports that are close to highways e.g. State Highway 1 at Ohakea and State highway 21 at Hamilton pass very close to the end of the runways.
  2. No open approvals shall be given to fly into operational areas frequented by other transport. For example, in central Auckland there are heliports adjacent to sections of the motorway at the port and the hospital. Frequent flightpaths and practical ceilings would need to be mapped. Bridge inspections using RPAS will need to be properly controlled over navigable waterways.
  3. No RPAS shall be operated on a State highway in the period from one hour before sunset to one hour after dawn or in any situation where visibility of
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the RPAS may be compromised (fog, smoke, heavy rain etc.).

4. On any highway with more than 15,000 vehicles per day, no access is to be granted during the traffic peaks. On any highway with more than 25,000 vehicles per day, no access is to be granted over any live traffic lane.
5. All operators must be able to distinguish whether the RPAS is flying above the live traffic lane. If the RPAS is operating remotely but has sophisticated location and viewing capability this may still be achievable adjacent to high volume highways. Where the RPAS is unsophisticated and the operator is too remote from the RPAS, adjacent to a high volume highway, to ensure separation from the traffic lane can be controlled visually, access should be declined.
6. Regional offices will need to identify other risk areas on their network where the use of RPAS are too high-risk, such as where there are difficult wind conditions, where Transpower mainline power transmission lines cross the highway, near radio or microwave towers that might interfere with control transmission etc.

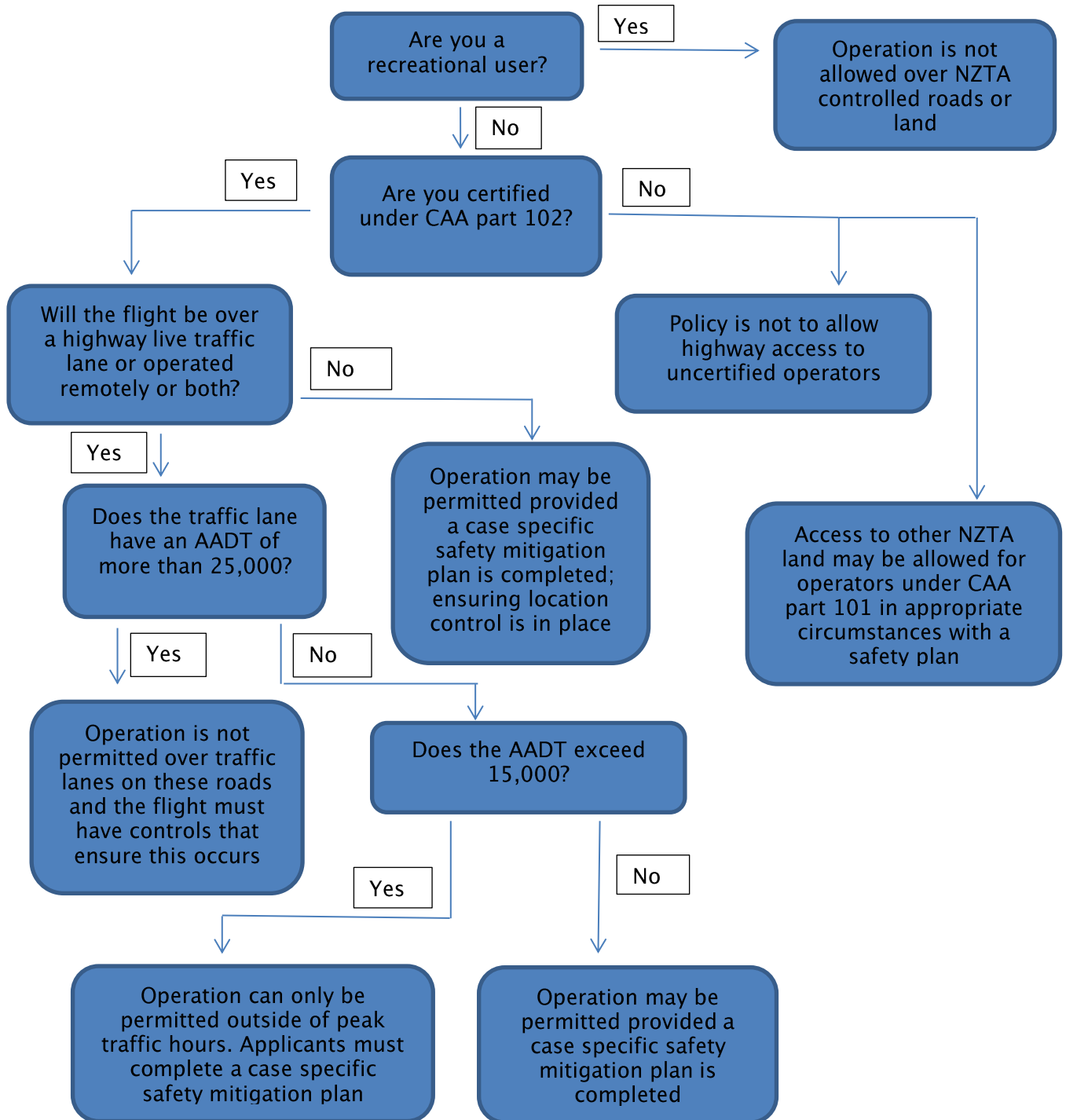
Delegation

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Approvals for access are to be made by Highway Managers or Regional Performance Managers.

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# Flowchart for drone flight requests over NZTA controlled highways and other land



## Notes:

- All drone (RPAS, UAV) operators must abide by all regulations from the International Civil Aviation Organization and the Civil Aviation Rules
- An on-highway operator must be a Civil Aviation Rules Part 102 certified operator
- The summary of operations under Civil Aviation Rules Part 101 are in the first attachment below and any non-compliance means Part 102 applies
- The outline of an appropriate safety plan are in the second attachment below

## Attachments

The Civil Aviation Rules  
Parts 101 and 102  
Operations

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The CAA requirements for the operation of RPAS are covered in two parts:

- (1) Those wanting to use RPAS that can operate within the Civil Aviation Rules, Part 101, do not need to be certificated by the CAA. To do so the operation must comply with the following criteria where operators:
  - Do not operate an aircraft that is 25 kg or heavier (or one that is 15 – 25 kg unless they are a member of a CAA-approved organisation) and always ensure the aircraft is safe to operate.
  - Take all practical steps to minimise hazards to people, property and other aircraft.
  - Fly only in daylight.
  - Give way to all crewed aircraft.
  - Must be able to see the aircraft with their own eyes (e.g. not through binoculars, a monitor, or smartphone) to ensure separation from other aircraft (or use an observer to do this in certain cases).
  - Do not fly their aircraft higher than 120 metres (400 feet) above ground level, unless they have approval from air traffic control.
  - Ensure they have knowledge of airspace and restrictions that apply in the area where they want to operate.
  - Do not fly closer than four kilometres from any aerodrome that is listed in the Aeronautical Information Publication.
  - Obtain air traffic control clearance from Airways Corporation NZ before flying in controlled airspace.
  - Do not fly in special use airspace without the permission of the controlling authority of the area (e.g. military operating areas, low flying zones or restricted areas).
  - Have consent from anyone they want to fly over.
  - Have consent of the property owner or person in charge of the area they want to fly above.
- (2) Some exceptions may apply, but generally if an operator cannot meet any of these requirements; the operation needs to go through a full certification process to be approved by the CAA under Part 102 of their Rules.

Safety Plan

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1. Some initial thinking has been given to an outline of a possible safety plan for regional office guidance. The plan should cover the suitability of the vehicle (airworthiness), including the fail
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safes built into it if the vehicle is to be operated over live lanes. The plan should cover the suitability of the operator, including experience and training. The plan should cover the measures to be taken to limit the exposure of the public to the risks of the proposed operation including that it should consider how to limit possible driver distraction as a result of the operation. The plan should identify any specific risks in the proposed flight area such as transmission or other lines, significantly large trees, tall buildings, wind effects etc., and how their impacts on the proposed operation will be mitigated.

2. As a result, Regional teams will also need to consider the limitations that might need to be applied to their networks over and above the policy outline when giving approvals. This should be from as simple as ground obstructions (wires, transmission lines, structures etc.) to issues such as areas with wind intensification or sheer (gullies, gorges etc.).
  3. Included in such considerations is to plot out any no-fly zones or special areas that may apply to their networks. More information about these can be found on the CAA website.
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