Headquarters
New Zealand Defence Force
Defence House
Private Bag 39997
Wellington Mail Centre
Lower Hutt 5045
New Zealand

OIA-2025-5345

22nd May 2025

s.9(2)(a) @rnz.co.nz

Dear s.9(2)(a)

I refer to your email of 11 April 2025 requesting, under the Official Information Act 1982 (OIA), the following information from October 2023 to the date of your request:

...the numbers of personnel trained and the range of training, on drone operations, including offensive ones

Including:

- *A summary of any and all training** previously made available, and per period, by NZDF specific to the operation of any and all drones/UAV (land, sea, air) to:*
  - *Officers*
  - *Non-officers*
  - *Civilian staff*
    - *That provides in each case details of dates, type of training, aim, and especially outcome by numbers of personnel trained and how*

- *Pls also break down the training above by drone type:*
  - *Land drones*
  - *Sea*
  - *Air*
  - *Kinetic drones of any type (eg offensive or with an offensive capability ie it may be dual offensive/defensive)*
  - *Defensive drones of any type including surveillance (ISR)*
- *A full list of any significant dates for NZDF around drones (training but also all other aspects) including for example, when any key reports were done, when any strategy was produced, with any initiatives were launched*
  - *Pls provide the date of the 'event' and the title and type of the 'event'*
- *A copy of any and all documents* or parts of documents whose main focus is drone training of any type*
- *Re the documents above, pls break them down according to*
  - *Land drones*
  - *Sea*
  - *Air*
  - *Kinetic drones of any type (eg offensive or with an offensive capability ie it may be dual offensive/defensive)*

- *Defensive drones of any type including surveillance (ISR)*

- *A copy of any and all briefing to any minister of drone procurement and/or operation*

More than 20 different units of the NZDF, including civilian units, operate drones/uncrewed aerial vehicles (UAV) depending on the tasking of the platform. There are more than 25 different types of drone operated by the NZDF. Tasking includes but is not limited to: explosive ordnance disposal; reconnaissance; public relations imagery capture; unit training and compliance; surveying; search and rescue; and, research. There is no current offensive role for drones/UAV in the NZDF. Drone training of members of the NZDF is not centralised and is coordinated at a unit level.

The specific information on any and all drone/UAV training that you have requested is not centrally recorded in each instance. To obtain this information, including relevant documents, would require a substantial collation and research effort across various units and individual personal files. These parts of your request are therefore declined in accordance with section 18(f) of the OIA. Noting that product and training material for DJI drones is publicly available through their website; apart from restricting your request to a single type of drone/UAV, there is no meaningful way to refine your request that would remove the reason to decline it.

A list of the drones/UAV types that various NZDF personnel receive training for is provided below.

DJI Phantom 4
DJI Mavic 2 Pro
DJI Mavic 2 Enterprise
DJI Mavic 2 Enterprise Dual
DJI Mavic 2 Enterprise Advanced
DJI Mavic 3 Pro
DJI Mavic 3 Pro Cine
DJI Mavic 25
DJI Matrice 300 RTK
Defence Science and Technology (DST) Kahu
DST Tui
DST First Person View Multirotor
DST Ranger
DST Quad Ranger
DST Talon
AeroVironment RQ20B Puma
Teledyne Black Hornet
Teledyne SkyRanger R70
Quantum Systems Vector/Scorpion
Swellpro Splashdrone
Skydio X2D
Skydio X10D
Skydio S2+
Instant Eye (generations 4 and 5)
Roboteam Explosive Ordnance Disposal robots
Uncrewed Surface Vessel (Bluebottle)
Remotely Operated Vehicles (subsurface)

The NZDF has not produced information on *significant dates...around drones.* This part of your request is therefore declined in accordance with section 18(e) of the OIA.

With respect to briefings to any minister, enclosed is a copy of a briefing to the Minister of Defence. Where indicated, information is withheld in accordance with: section 6(a), as the release of this material would likely prejudice the security and defence of New Zealand, or the international relations of the Government of New Zealand; section 6(b)(i), to protect the entrusting of information to the Government of New Zealand on a basis of confidence by the Government of any other country or any agency of such a Government; section 9(2)(f)(iv), to maintain the constitutional conventions for the time being which protect the confidentiality of advice tendered by Ministers of the Crown and officials.

You have the right, under section 28(3) of the OIA, to ask an Ombudsman to review this response to your request. Information about how to make a complaint is available at www.ombudsman.parliament.nz or freephone 0800 802 602.

Please note that responses to official information requests are proactively released where possible. This response to your request will be published shortly on the NZDF website, with your personal information removed.

Yours sincerely

GA Motley
Brigadier
Chief of Staff HQNZDF

Enclosure:
1 Application of Drones, Satellites and the Space Domain in the NZDF

TE OPE KĀTUA O AOTEAROA
DEFENCE FORCE

MANATŪ KAUPAPA WAONGA
NEW ZEALAND MINISTRY OF DEFENCE

Briefing to the Minister of Defence

7 December 2023

APPLICATION OF DRONES, SATELLITES AND THE SPACE DOMAIN IN THE NZDF

Prepared by: Darren Beck, Director Coordination. Office of the Chief of Defence Force

PURPOSE

1. The purpose of this brief is to outline the New Zealand Defence Force's (NZDF's) current and future involvement in the space domain, the application and use of satellites in the NZDF and the number, type and use of drones the NZDF currently operates.

BACKGROUND

2. New Zealand is heavily reliant on space-based assets (such as satellites) to perform a wide range of basic functions such as navigation, banking, communications and weather forecasting. Space also plays a critical role in our national security, as has been recognised in major policy products this year including the *National Security Strategy 2023* (NSS), the *National Space Policy (NSP),* and the *Defence Policy and Strategy Statement 2023* (DPSS).

3. Space is increasingly congested. Fewer than 2,000 satellites were in orbit five years ago, compared to over 12,000 today. By 2030 there may be 60,000 satellites in orbit, increasing the risk of orbital collisions and also dramatically increasing the planned number of re-entries as vast constellations are continuously refreshed.

4. Space can be contested. Satellites are vulnerable to attack from other satellites and also from ground-based effectors but attribution of such attacks can be challenging. A clear picture of threats is critical for supporting the responsible use of space and protecting national security interests.

5. The NZDF Space Programme is involved in a number of multi-national initiatives from the tactical to the strategic level that aim to inform capability development options, enable development of sovereign space capability and demonstrate a commitment to preserving the space domain. Due to the lack of sovereign capabilities, the NZDF is a net recipient of partner capabilities and information.

6. The NZDF is reliant on partner space-based capabilities to enable operations, including communication, navigation, weather, s6(a) and intelligence. s6(a) [redacted] There is opportunity though; New Zealand's location in an isolated, sparsely populated region, with a

unique perspective of the space domain given our geographical location means we are of increasing interest as a partner on ground-based space infrastructure, launch and operations.

Space Operations

s6(a)

8. New Zealand is a member of the Combined Space Operations initiative (CSpO) alongside Australia, Canada, France, Germany, the United Kingdom, the United States, Italy, Japan and Norway. New Zealand is represented by both the NZDF and the Ministry of Defence.

9. CSpO is a non-binding military space initiative aimed at improving defence space coordination of efforts and to enhance individual and collective space capabilities, thereby improving overall military effectiveness across all domains. It seeks to improve space collaboration (information sharing and coordination), enhance space capabilities and resilience, and make best use of resources across participating nations. It also seeks to establish norms of responsible behaviour in space. Partners within the initiative agree on the importance of ensuring that CSpO's membership continues to represent the geographic diversity of like-minded nations who subscribe to the international rules-based system, and promote responsible behaviours in space. Wider membership is viewed as supporting the initiative's international legitimacy.

10. Effective coordination of space effects and notification of space activity is critical to the success of combined space operations. s9(2)(f)(iv)

s6(a), s6(b)(i), s9(2)(f)(iv)

[1] s9(2)(f)(iv)

[2] s6(a), s9(2)(f)(iv)

s6(a), s6(b)(i), s9(2)(f)(iv)

13. Defence (NZDF & MoD) and MBIE are co-leads for the National Security Board 'Space Security Core Issue'. This will contribute to international efforts to observe and protect space infrastructure that provide services from space, enhances our national resilience, protects our national interests, and contributes to our national security.

Satellites

14. The NZDF relies heavily on satellite technology to support operations. This includes intelligence, surveillance and reconnaissance satellites, weather satellites, missile warning satellites, navigation and communication satellites (SATCOM). The NZDF bought into the Satellite Communications Wideband Global Satellite (WGS) constellation in 2012. The NZDF host ground stations and have limited access to data and bandwidth for deployed operations. Due to recent capability acquisitions (P-8A Poseidon maritime patrol aircraft, C-130J Hercules transport aircraft, Frigate upgrade, Uncrewed Aircraft Systems) and the Battle Management System as part of the Network Enabled Army the NZDF has an increasing requirement to use SATCOM to rapidly distribute imagery, video, and for command and control s6(a)

15. The NZDF Space Program is supporting the MethaneSat program (a NZ Government funded initiative). It is a US-NZ initiative to launch and operate a satellite that detects mass methane emissions. MBIE is the lead funder (NZ$26m), Rocket Lab is developing the capability and will operate the satellite for the first 6-12 months before the University of Auckland will take custody and host operations from their mission control centre. NZDF involvement aims to teach our personnel how to operate satellites in order to inform future capability development and begin building experience in satellite operations. A secondary aim is to help load-share the people contribution to 'flying' the satellite as an 'NZ Inc' initiative.

16. DST is conducting research into space operations and space surveillance to support NZDF and wider New Zealand's utilisation of space, and has agreements with academia and overseas partners to collaborate in these fields s6(a)

Uncrewed Aircraft (or Aerial) Systems and Drones

17. The NZDF has acquired around 100 Uncrewed Aircraft (or Aerial) Systems (UAS) of varying types. The organisation has utilised the FLIR R70 SkyRanger, AeroVironment Puma, Parrot Anafi USA, Skydio X2, InstantEye, FLIR Black Hornet, and various DJI platforms. Some of these are now obsolete and have been disposed of. Personnel who operate the UAS's receive training in line with the UAS specifications and the requirements of the Civil Aviation Authority and the Royal New Zealand Air Force.

18. UAS, also referred to as Remotely Piloted Aircraft Systems (RPAS), or Drones[3], are an increasingly common technology in New Zealand and around the world. The proliferation of UAS, including consumer drones, is well documented. Future generations of these systems will offer both increases in capability and also an expansion of the scope of tasks that these systems undertake.

19. Improvements in robotics are expanding the range of tasks that uncrewed systems can undertake. Increased agility and robustness in uncrewed systems is allowing their use for more demanding tasks. This will allow uncrewed systems to operate in a wider range of domains, moving beyond fair weather airspace into rugged land terrain and the high seas.

20. UAS have proven utility and lifesaving capability that will help improve safety by assisting to identify threats and scenarios that may exist beyond the visual line of sight. The use of UAS within the NZDF is now a "business as usual" approach. The NZDF has been developing its UAS policies and processes since late 2014. The UAS's are primarily used for training purposes and to collect images. Images can help in the management of the Defence Estate and Air Force Bases, for example. NZDF UAS's have also been used to support other agencies when requested, such as firefighting and search and rescue, and have been used for experimentation to inform future capability requirements.

21. In terms of exercises, drone usage varies across the different Services and units of the NZDF. For example, since 2017, the Army has used drones in exercises at the School of Artillery, the Army Command School, the Combat Training School, the Trade Training School, and 1 (NZ) Brigade. The frequency of drone usage varies by unit, from once a year to once or twice a month. Army drones were used at the New Zealand Collective Training Centre during five operational pre-deployment training rotations for the Multinational Force and Observers in Sinai. The Royal New Zealand Navy used InstantEye during a Maritime Explosive Ordnance Disposal exercise in 2021.

22. NZDF drones have been used on overseas deployments in Tonga and the Solomon Islands as well as overseas exercises in Australia, Singapore and around the Pacific. In coming years, the NZDF will be acquiring various yet-to-be-determined types of drones for use across the three Services.

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[3] In this context Drones relate to aerial systems, however, there are also land and sea (surface and sub-surface) applications of uncrewed systems. The NZDF are considering the application of these technologies.

23. The NZDF is experimenting with loitering munition[4] technology for the land and maritime domain. A "BattleLab" has been established to trial the utility and viability of loitering munitions as a force protection weapon. Note, there has been no decision to formally introduce loitering munitions into service at this time.

24. DST has an autonomous systems research programme focussed on accelerating the NZDF adoption of autonomous systems to meet defence outputs, and countering real-world autonomous systems threats. Whilst the programme considers all domains the current focus is on aerial systems. DST operates a variety of small and medium sized commercial off-the-shelf (COTS) UAS to support this research.

25. DST is also acquiring a COTS fixed-wing UAS capable of long range and endurance to demonstrate safe beyond line of sight UAS operations. The purpose of this is to understand and de-risk potential future NZDF employment of UAS in applications such as maritime surveillance conducted within civilian airspace[5]. s6(a) [redacted]

Uncrewed Surface Vessel

26. The Royal New Zealand Navy will shortly take delivery of a 6.8-metre renewable-powered Uncrewed Surface Vessel (USV) to trial on a short-term lease. This has the potential to undertake a wide variety of roles including fishery protection, border protection or providing meteorological data. HMNZS Aotearoa is transporting the 'Bluebottle' from Sydney to Auckland and once operational it will be able to undertake maritime tasks at sea without fuel or personnel on a trial basis. The USV will be constantly monitored and operated from a control room at Devonport Naval Base and has the potential to provide considerable value in fulfilling roles within New Zealand's large Exclusive Economic Zone.

Future Space and UAS Capabilities

27. Before the end of the year you will receive an update on the Defence Policy Review. Defence is currently working on providing investment option sets to Government by September 2024. The preferred option will form the basis of a Defence Capability Plan. s9(2)(f)(iv) [redacted]

[4] A kind of aerial weapon with a built in munition which can loiter waiting passively around a target area until a target is identified.
[5] For example UAS could potentially conduct some maritime patrol tasks within the New Zealand EEZ that would otherwise be conducted by crewed NZDF aircraft, such as the P-8A Poseidon.
[6] The Five Points MOU PA is administered by the RNZAF with DST providing research effort in return for wider NZDF access to C-UAS technology and knowledge.

KEY CONTACTS

Darren Beck, Director Coordination, Office of the Chief of Defence Force.

Simon Tregear, Space and Emerging Technology Lead, Ministry of Defence.

Matt Tristram, Director Space Program, NZDF

KR SHORT
Air Marshal
Chief of Defence Force
Date: 07 DEC 23

ANDREW BRIDGMAN
Secretary of Defence
Date: 7th December 2023