

Rocket Lab: NZ Regulatory Requirements; Government to Government Arrangements and Agreements; Permits and Notifications

It is proposed that relevant agencies establish and meet as an informal working group to share information and identify any interagency coordination which might be required to facilitate Rocket Lab's space launch venture.

Overview

Rocket Lab NZ (RL) is developing an innovative space launch vehicle (SLV) capable of placing small satellites (up to 110 kg) into space. Their commercial aim is fill a niche in the launch market with a capability that does not currently exist or is too expensive for small satellites. [REDACTED] s 9(2)(b)(ii)

Development of the SLV (named Electron) is at an advanced stage. MFAT is currently working through technology transfer issues. The resolution of these will facilitate the final development of the Electron. The US will require NZ to sign a treaty (Technology Safeguards Agreement) to give effect to the transfer of technology.

The Electron SLV is designed to be:

- easy to mass produce due to the use of innovative technology, allowing a fast launch service
- very cheap – in the order of \$5m a launch; at a minimum of 50% cheaper than anything else in the market
- extremely reliable due to the use of both proven and innovative technology

Launch from NZ is slated to be will be from a location near Lake Ellesmere, just south of Christchurch, with launches mainly towards the South. [REDACTED] s 9(2)(b)(ii)

[REDACTED] The NZ location enables the positioning of satellites from the equator to 45°. [REDACTED] s 9(2)(b)(ii)

Aside from the economic benefits from production, assembly and launches, there is considerable potential to invigorate an underdeveloped region in NZ through space launch tourism in the way that whale watching has does for Kaikoura.

[REDACTED] s 9(2)(b)(ii)

[REDACTED] NZ\$25m has been provided by Callaghan Innovation.

RL's objective is for a first launch [REDACTED] s 9(2)(b)(ii)

[REDACTED] To do so will require US FAA approvals. Final FAA approval will not be given until the treaty with NZ is signed concerning the transfer of technology and other implementation matters.

Aside from resolving the transfer conditions, **the time to draft and progress the treaty through Parliament, and to put in place regulatory requirements will thus be a key factor if the s 9(2)(b)(ii) launch timeframe will be met.**

Purpose

Rocket Lab's venture has an increasingly high profile and has the potential to be economically significant. It has necessarily engaged a number of government agencies across a range of work streams. In anticipation of a successful resolution of the transfer policy issues, this engagement with agencies has already started in parallel.

It is proposed that relevant agencies establish and meet as an informal working group to share information and identify any interagency coordination which might be required.

This recognises that in a number of instances government agencies will work with RL on a one to one basis, and in other areas some degree of interagency coordination may be required.

s 9(2)(b)(ii), there may be other downstream facets, such as leveraging economic opportunities, which government agencies may wish to pursue. It is not intended that this informal working group address these.

Current Situation

- CAA is looking into the regulatory framework that could/would be applied to allow Rocket Lab to operate in NZ. s 9(2)(a) are doing that work.
- MoT is looking into liability matters that could arise.
- LGL and MoT are assessing on NZ's rights and responsibilities under the 1972 Liability Convention, relating to a launch by a US company operating under a US FAA license from a NZ launch site.
- s 9(2)(b)(ii)
- MoT has made initial contact with MfE to discuss matters such as resource consents and environmental effects.
- MfE s 9(2)(a) is identifying an environmental assessment expert who could discuss with FAA the NZ Government requirements for a launch site and launch operation.
- Worksafe would need to be involved in the launch site operation, but we have not contacted them yet.
- MBIE is looking into the matter of Rocket Lab needing to use radio spectrum.

- Airways is looking into how they will manage the air traffic based on what framework the CAA may require and launch processes with Rocket Lab e.g. SUA activation.
- DOC. s 9(2)(a) is the lead for DOC involvement in this project
 - RL has recently contacted DOC regarding potential conservation values that may be affected – we have not yet completed that assessment as the RL proposal is not developed enough.
 - RL presented some information to various Canterbury leaders on 15/04/15, which DOC attended.
 - At this stage it appears that the RL proposal will not be on public conservation land managed by DOC, but may be on freehold land that is near to conservation land. There may be some effects on conservation values but this is yet to be determined.
 - The role of Te Runanga O Ngai Tahu and Canterbury Regional Council (ECan) are key ones, and it is highly likely that the Department will work closely with TRONT and ECan as our input is developed. We will likely have one of our staff liaising closely with RL, ECan and importantly with Te Runanga O Ngai Tahu who are owners of the lakebed of Te Waihora (Ellesmere).

Requirements: NZ-US

MFAT LGL: Technology Safeguards Agreement (TSA): The U.S. and New Zealand Governments will need conclude a legally binding TSA, akin to that signed by the U.S. and Brazil in 2000, which will establish the political and technical framework for:

- (a) the conduct of various activities – in particular, final assembly and launch – in New Zealand but under U.S. jurisdiction and control of the U.S. Electron SLV; and
- (b) the protection in New Zealand of equipment and technology exported from the U.S. pursuant to the Electron program.

MFAT LGL: Technology Transfer Control Plan (TTCP): As stipulated in the TSA, the U.S. and New Zealand Governments will be responsible for ensuring that persons under their jurisdiction and control (to include Rocket Lab USA and its subsidiary in New Zealand, respectively) comply with the stipulations of a USG-approved TTCP with detailed protections for equipment and technology under U.S. jurisdiction and control, or exported by the United States, as part of the Electron program. TTCPs include sections to address planned controls for technical data, technical interchanges, physical and communications security, and U.S. persons assigned to foreign party facilities. Additionally, particularly for launch campaigns, additional Annexes to the TTCP will be required to address the launch campaign overview, roles/responsibilities of organizations/participants, launch base facilities, general functions (to include overall security and

networks/communications), factory-to-post-launch flow of events, and contingency planning.

s 6(a)

s 6(a), s 6(b)

Requirements: NZ

MFAT LGL: The Convention on Registration of Launched Objects into Outer Space (Registration Convention): New Zealand is not currently a party to this Convention, but it may be necessary for us to do so.

CAA: Regulatory framework:

Airways: Air traffic management:

MoT: Liability considerations:

MfE: Environmental aspects:

DOC: Environmental aspects:

MfE: Resource consents:

Worksafe: Launch site operations:

MBIE: Radio spectrum allocation:

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MFAT ISED: Strategic Goods Permits and Export Controls Regime notifications:

The transfer of Rocket Lab components and 'technology' require permits for the export of strategic goods.

MFAT ISED: Hague Code of Conduct (HCOC) notifications: As a member of HCOC NZ is required to submit prelaunch notifications. An annual declaration of activities is also required.

MFAT ISED: Export Control Regime Notifications: The transfer of items and technology that are in the 'sensitive' and 'very sensitive' categories may require notifications under the Wassenaar Arrangement.

? Registration Convention Notification of NZ Launches:

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Contacts:

Out of Scope

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