PERMITTING DECISION SUMMARY

ANDESITE

Boston University

1. ANDESITE is an acronym for 'Ad-Hoc Network Demonstration for Extended Satellite-based Inquiry and Other Team Endeavours.' The payload was developed by Boston University as part of NASA's Educational Launch of Nanosatellites programme.

2. ANDESITE is made up of a single 6U data mule which houses eight smaller pico-satellite sensor nodes.

3. The sensor nodes use their on-board magnetometers to study the magnetic field above the Earth. The data collected is used to help better predict solar weather events, and to understand how the aurora forms its distinctive ripples and whirls.

4. Payloads are permitted in line with the Outer Space and High-altitude Activities Act 2017 and the Outer Space and High-altitude Activities (Licences and Permits) Regulations 2017.

5. Each payload has been approved by the Minister for Economic Development, on advice from officials across agencies. When approving payloads, the Minister needs to be satisfied that:

   a. The applicant has taken and will continue to take all reasonable steps to safely manage the operation of the payload;
   b. The proposed operation of the payload is consistent with New Zealand's international obligations; and
   c. The applicant has an orbital debris mitigation plan that meets prescribed requirements.
   d. Despite being satisfied of these matters, the Minister may nevertheless decline a permit if he is not satisfied that the proposed operation of the payload is in New Zealand's national interest.

Date Granted	Authorisation Number	Payload Name	Owner or Operator	Country of Origin
5 March 2020	190112-PPT	ANDESITE	Boston University	USA

NEW ZEALAND
SPACE AGENCY

PAYLOAD PERMIT

190112-PPT

I, Hon Phil Twyford, as Minister for Economic Development, acting pursuant to section 17 of the Outer Space and High-altitude Activities Act 2017 grant a Payload Permit to:

Boston University

Boston University is authorised to launch and operate one 6u 'datamule' and eight pictosatellite 'sensor nodes' for the purpose of scientific research.

This permit will take effect upon signature, and will expire
(i) three years from the date of signature, or
(ii) if the payload is launched, when the payload is no longer in the Earth's orbit.

This permit is granted subject to the Outer Space and High-altitude Activities Act 2017 and all regulations under the Act, and the conditions of the permit.

5 March 2020

Dated

Hon Phil Twyford
Minister for Economic Development

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

New Zealand Government