



PERMITTING DECISION SUMMARY

STP-27RM Monolith

Air Force Research Laboratory (United States Air Force)

1. STP-27RM Monolith (Monolith) is a payload owned by the Air Force Research Laboratory. Monolith will explore the application of small CubeSats for US government programmes.
2. CubeSats are built to standard dimensions called 'Units' or 'U'. A 1U CubeSat is 10cm x 10cm x 10cm. Monolith will determine if 6U or 12U payloads can be configured so that a large deployable sensor can be installed inside smaller CubeSats.
3. Monolith will further explore and demonstrate the use of a deployable sensor, where the sensor's mass is a substantial fraction of the total mass of the spacecraft, changing the spacecraft's dynamic properties and testing the ability to maintain spacecraft attitude control. This will enable the use of smaller CubeSats when building future deployable sensors, such as weather satellites. This may reduce the cost, complexity and development timelines for CubeSat missions.
4. The satellite will also provide a platform to test future space protection capabilities.
5. 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](#).
6. 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
29 April 2021	210171-PPT	STP-27RM Monolith	Air Force Research Laboratory (United States Air Force)	United States