

Marine Licence Application Responses

6. Scotland's National Marine Plan

The proposed activity is consistent with the policies and objectives of Scotland's National Marine Plan. A detailed assessment has been provided within the accompanying Best Practicable Environmental Option (BPEO) document, which considers the relevant General Policies (GEN 1-21), including sustainable development, economic and social benefit, co-existence with other marine users, natural heritage, marine litter, water quality, stakeholder engagement, and cumulative impacts.

In summary, the proposed activity is a single, temporary launch and recovery operation with a limited marine footprint. All major vehicle components are intended to be recovered following splashdown, stakeholder engagement has been undertaken with relevant maritime organisations and authorities, and navigational and environmental risks have been assessed through the supporting Navigation Risk Assessment (NRA), Environmental Assessment (EA) and BPEO documents. The activity does not require permanent infrastructure within the marine environment and is not anticipated to result in significant adverse effects on other marine users, protected sites, water quality, or the wider marine environment. The proposal has been designed to minimise environmental effects so far as reasonably practicable whilst supporting the development of Scotland's emerging space sector.

7. Scientific Instrument Deployment Details

The proposed activity consists of a single test launch and recovery operation using the Lowlander launch vehicle, undertaken as a pathfinder mission to support a future higher-altitude launch campaign. The vehicle will be launched from Machrihanish Airbase (55.43932°N, 5.70887°W) and is expected to reach an altitude of approximately 3-4 km before descending under a dual-deployment parachute recovery system. Under nominal conditions, the vehicle is expected to travel approximately 1 km downrange, with splashdown occurring around 0.5 km offshore within the designated recovery area. The vehicle has an approximate dry mass of 21 kg and incorporates onboard GPS tracking and visual location aids, including coloured smoke signals, to facilitate recovery. Recovery operations will be supported by one or more recovery vessels operating within a temporary Safety Exclusion Zone established for the duration of the activity. All major vehicle components are intended to be recovered following splashdown using parachutes, tethered assemblies, inflatable flotation devices and tracking systems. The operation is temporary in nature and is expected to last only a short duration, encompassing launch, splashdown and recovery activities.

Overview of the Lowlander Pathfinder

Lowlander Pathfinder is an early stage test flight managed by Exotopic, and is designed to demonstrate launch and recovery systems for future launch vehicles.

For the Lowlander mission:

- the launch vehicle is expected to reach an apogee of approximately **3–4 km**;
- the vehicle is launched westward from Machrihanish Airbase;
- descent is controlled using a dual deployment parachute system; and
- the vehicle is intended to splash down at sea and be recovered shortly afterwards.

The primary objectives of the Lowlander launch are to:

- validate **Exotopic's launch rail system** under live launch conditions;
- exercise and de-risk sea recovery procedures at short range;
- demonstrate basic tracking, communications, and coordination arrangements associated with a marine recovery.

The proposed launch is planned to take place within a launch window extending from **5 October 2026 to 16 October 2026**, subject to weather, operational readiness, and regulatory approvals.

The Lowlander mission acts as a pathfinder for future launches adopting similar launch and recovery procedures.