

IAATO RPAS for Navigational Use

Background

The term Remotely Piloted Aircraft System (RPAS) refers to any remotely piloted aircraft (formerly called UAVs).

IAATO accepts the use of RPAS by their members, provided the following criteria are met:

- i. Recreational RPAS flights are not allowed in coastal areas;
- ii. Commercial RPAS flights are not allowed in coastal areas unless the activity is covered by the IAATO Operator's permit/authorisation and/or the RPAS pilot has approval from the IAATO Operator with whom they are traveling, regardless of any personal authorisation they may have;
- iii. RPAS flights for navigational safety or scientific purposes are allowed, if conducted with permission/ authorisation from a competent authority in accordance with the Environmental Protocol and its Annexes;
- iv. RPAS flights are allowed at deep field sites, including coastal areas bound by ice shelves, if conducted with permission/authorisation from a competent authority.
- v. Members who conduct RPAS flights should have Standard Operating Procedures in place that are specific to RPAS operation.
- vi. Any use of RPAS must be included in the operator's permit/authorisation conditions e.g. Advance Notification, Environmental Impact Assessment (EIA) and Waste Management Permit (WMP), where relevant.

Purpose

IAATO remains committed to the ban on recreational use of RPAS in coastal areas, but also recognizes that increasing numbers of vessels employ RPAS for navigational purposes.

Deployment of Remotely Piloted Aircraft Systems (RPAS) can, in some circumstances, reduce or avoid environmental impacts that might otherwise occur. Their use may also be safer and require less logistical support than other means of deployment for the same purpose.

Scope of RPAS use for Navigation:

- Assess sea ice conditions
- Assess open water, coastal or other, navigational constraints or risks
- Having been permitted for navigation, other uses of opportunity, such as commercial filming of the vessel, are not allowed.

Guidelines

Pre-deployment Planning and Environmental Impact Assessment (EIA)

Requirements of the Environmental Protocol and its Annexes

- i. A permit for operation of an RPAS for navigational use must be issued by an appropriate national authority before the activity is undertaken.
- ii. Any proposed activities undertaken in the Antarctic Treaty area shall be subject to the procedures set out in Annex I of the Environmental Protocol for prior assessment of the impacts of those activities on the Antarctic environment.
- iii. Flying or landing an aircraft in a manner that disturbs concentrations of birds and seals is prohibited in Antarctica, except in accordance with a permit issued by an appropriate authority under Annex II to the Environmental Protocol.
- iv. Removal of hazardous wastes from Antarctica, including electrical batteries, fuels, plastics, etc. is required by Annex III, which should be considered in contingency plans for lost or damaged RPAS as part of the Environmental Impact Assessment (EIA).
- v. A permit issued by an appropriate national authority is required to enter an Antarctic Specially Protected Area (ASP), and special requirements to operate RPAS may apply within an ASP or an Antarctic Specially Managed Area (ASMA): any planned RPAS operation within ASPs or ASMA, including any overflight of these areas, must be in accordance with the respective ASP or ASMA Management Plan.

General Considerations

- i. Undertake detailed pre-flight planning, including thoroughly assessing the particularities of the operational area in advance of deployment, to ensure an appropriate understanding of its topography, weather and any hazards that may impact an environmentally sound operation.
- ii. Map out flight plans, prepare contingency plans for incidents or malfunctions, including alternative landing sites and plans for RPAS retrieval should there be a crash.
- iii. When operating RPAS from vessels, be aware of elevated risks of collisions with flying birds that often follow ships.
- iv. Any vessel involved in RPAS activities should notify other vessels (Government, IAATO or other) within 5km of the RPAS Operation Site.



Operator Characteristics

- i. The RPAS pilot should be well-trained and experienced before undertaking operations in Antarctica. Supporting documents and demonstration of experience (flight logs, etc.) should be verified by the IAATO Operator.
- ii. Before operating in Antarctica, RPAS test flights should be undertaken in a variety of conditions by the pilot that will be operating in Antarctica with the specific type and model of RPAS that will be deployed.
- iii. RPAS operations should comprise of a pilot and at least one observer. Others, including the Captain of the vessel, may also be involved. The pilot and designated observer should operate within Visual Line Of Sight (VLOS) with the RPAS at all times, unless the operation is approved by a competent authority to operate "Beyond Visual Line Of Sight (BVLOS)".
- iv. The pilot and designated observer should be vigilant during operations and maintain good communications with each other throughout, watching for wildlife moving into the area of operations.
- v. When possible, the pilot should avoid operation of RPAS near wildlife.
- vi. The pilot and designated observer should operate with special care near cliffs where birds may be nesting, and where practicable maintain the horizontal separation distance as defined in authorisations/permits. During VLOS operations, the pilot and designated observer should watch for, and inform each other of, signs of wildlife disturbance.

Reporting

- i. If an interaction with wildlife occurs (interactions are defined as encounters with RPAS that change wildlife behaviour), the designated observer (other than the pilot who should be principally focused on RPAS systems and control) should record the event.
- ii. Post-activity reporting should be completed in accordance with the operator's EIA, with the requirements of the permit/authorisation, and on IAATO PVRs.
- iii. RPAS operators are encouraged to carry out research into the environmental impacts of RPAS to help minimize uncertainties and to undertake regular reviews of the research to help refine and improve currently known best practice and environmental guidelines for the operation of RPAS in Antarctica.

Please also see the following support documents in the IAATO Field Operations Manual (FOM):

- Environmental Guidelines for operation of Remotely Piloted Aircraft Systems (RPAS) in Antarctica
- RPAS Best Practice Paper
- IAATO Statement on the use of Remotely Piloted Aircraft Systems (RPAS)