

Improving the Co-ordination of Antarctic Aviation Has Positive Safety Benefits

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ABSTRACT

Worldwide there is a continuing demand and increase in aviation activities – the COVID pandemic only caused a transient pause in this trend. The Antarctic Continent is following this trend which includes an increase in the use of Remotely Piloted Aerial Systems (RPAS). The need for co-ordination of activities has, in the past, been driven by the need to make operations more efficient. However, this need is now being driven by the desire to improve the safety of the aviation environment in the Antarctic by all Nations. COMNAP has played a significant role in the improvement of Antarctic flight safety with the introduction of many initiatives, the Antarctic Flight Information Manual (AFIM), the Asset Tracking System (CATS), Communications Database and continent-wide planning maps for aviation among the highlights. The increase in complexity, including increasing use of RPAS, often with “Beyond Line of Sight” capabilities, makes co-ordination and communication between all the Operators and Programmes even more important in keeping aviation as safe as reasonably possible. The COMNAP Air Operations Working Group will discuss, among other topics, the benefits of a forum for sharing safety information, RPAS integration, a centralised NOTAM system and the more recent technical developments with benefits to safety such as traffic awareness/surveillance systems such as ADS-B.

The role of COMNAP and the Aircraft Operators in Improving Aviation Safety Through Co-ordination

Aviation Expert Working Group:

This is an opportunity to promote good practices among the aviation community. There is a wealth of experience, and the sharing of this information will help improve the aviation operational environment. This is both in terms of safety and efficiency.

The increase in RPAS activity. Platforms with Beyond Visual Line of Sight (BVLOS) are increasingly common and their application in Antarctic is particularly attractive due to the lower resource footprint than crewed operations. Any such platform should have an ADSB out capability.

RPAS activity should be included in the Regional Coordination Groups. This is particularly important for BVLOS operation.

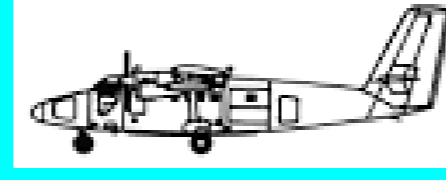



COMNAP has an Incident Reporting database. Consideration as to how this is used should be discussed. Operators will report to the appropriate Regulatory Authority

COMNAP Outputs:

- SAR workshops
- eAFIM – Contact and operational information to allow for prior communication and planning
- Recommended Safety Equipment List
- RPAS Handbook
- Asset tracking (ships and aircraft)
- Incident reporting database
- Facilitation to allow coordination of Regional groups eg DROMLAN, West Antarctica etc
- Aviation planning maps

Developments and Challenges:

- NOTAMs and their circulation
- Integration of the increased RPAS operations especially with BVLOS capability
- Tracking and “visibility” of BVLOS RPAS – ADSB should be considered as essential
- Operational information sharing – eAFIM expanded to contain “Prior Permission Required” (PPR) information
- “Prior Permission” and operational coordination procedures
- Availability of aviation information at low bandwidth sites
- Promote use of COMNAP incident reporting database/platform
- Consider targeted safety forums and their benefit

Aviate  <ul style="list-style-type: none"> • Robust aircraft systems • Experienced pilot • Rigorous flight procedures and SOPs • Use of Transponders and ADSB 	Navigate  <ul style="list-style-type: none"> • Mapping available • Planned routes • Maintain separation/segregated airspace
Communicate  <ul style="list-style-type: none"> • eAFIM • Pre-Flight co-ordination • NOTAMs • Aircraft tracking • Aircraft transponders – ADSB, Mode S etc. 	Mitigate  <ul style="list-style-type: none"> • Safety reporting and sharing good practice • SAR coordination and planning



Boeing 737 Max 8 at Troll Blue Ice Runway



Dash 7 at Sky Blu Ice Runway

SUMMARY

The aim of the Expert Working Group should be to inform and subsequently meet the requirements of the ATCM and EXCOM. It is also a forum, which should be inclusive, to improve the efficiency and safety of operations in the Antarctic. An increase in the operational coordination and flow of information between all Operators and National Programs will have operational and safety benefits. Finding the right forum for this information sharing will require the use of current COMNAP platforms and Databases. However, the use of some of these is sporadic. Consultation at the Working Group will allow engagement to publicise and raise the profile of the tools. This may also lead to development of their capability and subsequent use. If necessary new tools could be identified to meet the community’s needs including those at low bandwidth sites.