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ACI ADVISORY BULLETIN

Airport Preparedness - Drone related disruption to aircraft operations

Montreal, 25 January 2019 – The recent drone related disruption to aircraft operations in Europe and their impact on airport safety and operations have raised significant questions for airport operators around the world on how to handle such situations.

ACI considers that the highest authority for enforcement activities and initiating anti-drone measures is the relevant national authority (for example, the Civil Aviation Authority) and local law enforcement agencies. However, it is incumbent on all industry stakeholders to be prepared to protect the safety and regularity of aircraft operations in coordination with their competent authorities and law enforcement agencies. All these parties, including drone operators, should be aware of national laws and regulations pertaining to drones with an understanding that these may reside outside of civil aviation.

A number of jurisdictions consider drones to be “aircraft”, which may make any interference unlawful.

This Advisory Bulletin proposes that ACI members initiate dialogue with their national authorities and local law enforcement agencies on a risk-based approach taking into account the impact on aircraft operations and available mitigations including anti-drone measures. A concept of operations should be drawn up in advance, stating how a sighting or detection will be classified, what action will be taken, and by whom. For the purpose of this bulletin, anti-drone measures include:

- a) Surveillance/detection systems and procedures, and
- b) Suppression/neutralization systems and procedures.

Note, this bulletin enlarges on the Advisory Bulletin published in July 2016 and Policy Paper published in July 2018, which contained advice for airport operators.

They can be accessed at <https://aci.aero/about-aci/priorities/safety/> .

The guidance below are largely drawn from section 4.3 (Drone enforcement), 4.5 (Drone operations at or in the vicinity of airports) and 5.0 (Drones – security Risks) of the Policy Paper.

Actions that the airport operator may consider include:

- Coordinating with national authorities on the identification of geographic boundaries of “No Drone Zones” (no fly zones for drones) on and in the vicinity of the airport, especially approach and take-off flight paths.
- Coordinating with authorities on regulations governing the operation of drones in the vicinity of the airport.
- Coordinating with local law enforcement agencies and national authorities to ensure the integrity of “No Drone Zones” once they are established. This may include regular patrolling, signage regarding “No Drone Zones”, public education initiatives to inform the public on national laws pertaining to the flight of drones near airports and aircraft and the financial and legal consequences of violating these national laws, a communication mechanism with the surrounding community through local media, etc.
- Coordinating with national authorities and obtaining guidance on the requirements for airports to implement anti-drone technologies. The requirements for airports to implement such anti-drone technologies should be based on a risk and impact assessment considering local conditions and operational requirements. The assessment should include details of the possible impact the technology or solution might involve for the entire aviation system, with means to mitigate them.
- Reviewing its assessment of the security risks associated with the malicious use of drones as part of the airport Security Risk Assessment. The assessment should also take into account different possible motivations for unlawful drone use including terrorism, activism, espionage, etc. The ICAO Working Group on Threat and Risk performs evaluation of the security risk of drones to global civil aviation. Potential vulnerabilities could increase as the technological capabilities of drones evolve.
- Clarifying with the national authorities on the roles and responsibilities of the airport operator, national authorities, local law enforcement, airlines, Air Navigation Service Providers (ANSPs) and other stakeholders regarding the various possible mitigations to unlawful use of drones in an airport environment.
- Identifying the responsibility for funding such mitigations.
- Establishing means to suppress/neutralize unauthorized drones within the airport boundary especially adjacent to runways and flight paths. This requires prior coordination with the national authorities and law enforcement agencies which may authorise airport operators to initiate suppression/neutralization activities of drones within the airport boundary. Such actions should be carried out without impacting the safety of aircraft operations, in coordination with the ANSP.

- Ensuring that any new anti-drone measures do not create unintended safety hazards and unmitigated risks to other manned aircraft, authorized drones and aviation infrastructures. There are numerous organizations developing and marketing technologies that claim capabilities to detect and disable drones. Airport operators are advised to be vigilant in assessing these technologies and to apply Safety Management System assessment practices before introducing them to their operations.
- Conducting joint assessments with ANSP, Aircraft operators, national authorities and other law enforcement agencies as early as practicable to assess the emerging situation in the event of drone(s) intrusion. Suspension, continuation or restoration of aircraft operations should be a joint decision based on the outcome of the assessment or as per guidelines provided by the national authority, if available.
- Establishing a Concept of Operations and Standard Operating Procedure for anti-drone measures based on advice from the national authorities, including but not limited to:
 - Roles and responsibilities of various agencies (including internal airport departments);
 - Risk index based on the location and size of the drone(s) identified;
 - Operational impact and safety risks associated with suspending aircraft operations;
 - Contact details and Coordination procedures.
 - any possible negative impact the specific technology /system will have on other airport systems and the entire aviation system, with means to mitigate them;
 - Regular reviews of the effectiveness of the anti-drone measures, based on local and or international rulemaking and the evolution of anti-drone technologies.
 - Means to verify that a reported sighting of drones is a potential safety risk to aircraft operations and is not a false identification (lights, helicopters, etc).

As additional good practice, the airport operator may:

- Establish procedures to identify drone activities in the vicinity of the airport or adjacent to the “No Drone Zones” and maintain a record of them for trend analysis and to initiate proactive measures. This may include sightings from pilots, Air Traffic Control (ATC), security patrols, general public, neighbouring communities, aircraft spotters, etc.
 - Establish a reporting system to allow reports to be logged, taking into consideration that estimations of heights and ranges may not be accurate.
 - Following any incident(s) prepare a review outlining corrective actions and lessons learnt for future events.

- Where an airport operator uses drones for surveillance or other activities a system should be in place to notify this activity to prevent spurious sightings being reported.
- Work closely with subject matter experts from national authorities on drone suppression and neutralization.
- Provide training to airport operational personnel on applicable airport policies and procedures to the operation of authorized and unauthorized drones.
- If practicable, coordinate with local drone industry experts and manufacturers to understand the latest developments, trends and nuances of the drone industry and anti-drone measures.

Notes

1. State regulations supersede the information contained in this advisory where applicable.
2. Airport members are requested to share their experience and lessons learnt on anti-drone measures and drone related incidents with the contact provided below.
3. Airports Council International (ACI), the trade association of the world's airports, was founded in 1991 with the objective of fostering cooperation among its member airports and other partners in world aviation, including the International Civil Aviation Organization, the International Air Transport Association and the Civil Air Navigation Services Organization. In representing the best interests of airports during key phases of policy development, ACI makes a significant contribution toward ensuring a global air transport system that is safe, secure, efficient and environmentally sustainable. As of January 2019, ACI serves 646 members, operating 1,960 airports in 176 countries.

Contact

David Gamper
Director, Safety and Technical
ACI World
Telephone: +1 514 373-1216
Email: dgamper@aci.aero