International Civil Aviation Organization

Sixth Meeting of the Asia/Pacific Wildlife Hazard Management Working Group (AP–WHM/WG/6)

Bangkok, Thailand, 14 to 17 May 2024

Agenda Item 6: Any other business

ENHANCING AVIATION SAFETY AND EFFICIENCY: RECOMMENDATIONS FOR A MORE RISK BASED APPROACH WITH BIRD STRIKES AND RUNWAY CLOSURES

(Presented by Association of Asia Pacific Airlines and Airports Council International, Co-Sponsored by the Flight Safety Foundation)

SUMMARY

This paper addresses critical aviation safety and efficiency concerns, emphasizing the benefits of an enhanced use of a risk-based approach in determining runway closures arising from a reported bird strike. These measures are essential for minimizing disruptions, ensuring passenger safety, and enhancing overall airport operations.

1. INTRODUCTION

1.1 This paper addresses critical aviation safety and efficiency concerns, emphasizing the benefits of an enhanced use of a risk-based approach in determining runway closures arising from a reported bird strike. These measures are essential for minimizing disruptions, maintaining operational safety, and enhancing overall airport operations.

2. DISCUSSION

2.1 Risk Based Approach for Runway Closures

2.1.1 An extensive survey by AAPA gathered insights from major airports in the Asia and Pacific region. Based on the results of the survey that covered 10-major airports with two or more operational runways, the following lists a summary of the findings:

- Procedures and Protocols: Over 50% of these airports resort to closing the runway immediately for arrivals after bird strikes are reported by either a preceding landing or departing aircraft.
- Mitigation Measures: All these airports use deterrent technologies, surveillance systems, and airborne bird detection.
- Damage from Bird Carcass: It is worth noting that none of the Member Airlines confirmed cases of damage with a bird carcass on the runway.
- Collaboration with Airlines: All Airlines reported that Airports collaborate by sharing data on wildlife incidents and maintaining regular communication.

2.1.2 In addition, all participants in this survey indicated that these additional concerns and risks emerge during go-arounds when they are on final approach, stemming from a reported bird strike by a preceding aircraft:

- **Increased Workload for ATC**. The need for potentially multiple aircraft to go around in quick succession can overload air traffic controllers, potentially leading to communication errors or delays in providing instructions to pilots.
- **Congestion in the Airspace.** Multiple go-arounds can result in congestion in the airspace, especially in busy airport environments. Close proximity between aircraft during go-arounds may in fact pose additional safety hazards.
- **Fuel Burn and Environmental Impact:** Go-arounds contribute to increased fuel burn, leading to environmental concerns and higher operating costs for airlines.
- **Operational Disruptions:** Requiring go-arounds disrupts the established arrival sequence and can lead to delays in aircraft landings. This disruption may have a cascading effect on other scheduled flights and overall airport operations.
- **Pilot Fatigue and Stress:** Pilots may experience increased stress and fatigue when executing unexpected go-arounds.
- **Increased likelihood of diversions:** Due to additional fuel burn required for go-arounds, there is an increased likelihood of diversions especially in marginal weather conditions.
- **Weather Considerations:** In adverse weather, requiring aircraft to go around may pose additional challenges, including reduced visibility and increased turbulence.
- **Impact on Airport Capacity:** Multiple go-arounds can strain an airport's capacity to handle incoming traffic.
- **Passenger Inconvenience:** Passengers may experience inconvenience and dissatisfaction due to delays and uncertainty caused by unexpected go-arounds.
- **Resource Reallocation:** Airports and airlines need to reallocate resources such as parking stands and cope with these last-minute changes caused by go-arounds, affecting overall operational efficiency.

2.1.3 All factors considered, aircraft on final approach to land should be given the option to either land or carry out a go-around if there is a reported bird strike by a preceding aircraft. There would certainly be exceptions to this such as in the case of multiple bird strikes and severity of birdstrike damage reported. Hence the recommendation for a risk-based approach.

2.1.4 High density aerodromes, characterized by over 100,000 aircraft movements per year for a particular runway, may consider installing an automated Foreign Object Debris Detection System (FODDS). This system is designed to issue alerts in the presence of Foreign Object Debris (FOD) on the runway, thereby elevating risk mitigation measures and significantly improving runway efficiency. This proactive approach additionally minimizes unwarranted runway closures, particularly those caused by a non-threatening object like a bird carcass.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) Promote the adoption of a more risk-based approach when deciding on runway closures following bird strike-related reports to minimize disruptions.

b) These factors combined enhances runway efficiency while maintaining an acceptable level of safety (ALoS), benefiting the entire aviation industry.

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