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Agenda Item 4: Provision of AOP in the Asia/Pacific Region
– **Planning & Design of Aerodromes**

AIRCRAFT TAXIING ERRORS DURING STABILIZATION OF NEW INFRASTRUCTURE

(Presented by India)

SUMMARY

This paper presents the challenges faced during stabilization of new infrastructures with respect to taxiing errors made by pilots even after airport infrastructure complying to all the ICAO Standards / State Requirements and the actions taken to mitigate these challenges.

1. INTRODUCTION

1.1 The infrastructure for aircraft operations at Kempegowda International Airport consists of a set of parallel runways, a full parallel taxiway for each runway, a half parallel taxiway to the parallel taxiway, east cross field parallel taxiways connecting both runways, RETs and other link taxiways. Runway 09/27 is operational since 2008 and later re-designated as Runway 09L/27R with the addition of parallel Runway 09R/27L in the year 2019. All the infrastructure are fully compliant to ICAO standards and state requirements.

1.2 After the initial impact of COVID19 pandemic, Runway 09R/27L was put into full fledged operation in the month of late June 2020. Immediately a flurry of taxiing errors was reported such as entering to wrong taxiways, turning to wrong directions, lack of situational awareness etc. Even though, these errors were not resulted in reciprocal traffic of aircraft, the situation was found to be requiring concern by all stakeholders.

2. DISCUSSION

Analysis

2.1 An analysis on the errors based on location of wrong turn, type of turn, airline involved, phase of flight, time of occurrence etc. was taken up by an internal team formed by BIAL. Following were the major points.

- a) These wrong turns were not concentrated on a single section of taxiway and did not affect safety of other aircraft as adequate gap with the next taxiway intersection was available and taxi routings ensured no reciprocal traffic.

- b) The infrastructure facilities at BLR are conforming to the compliance requirements as per relevant DGCA regulations and no observation with regard to non-compliance was raised during multiple regular and spot audits from DGCA.
- c) The pattern of taxiway nomenclature was defined based on pattern to enable easy identification and location awareness.
- d) International airlines were subjected to minimal errors.
- e) Ratio of taxi errors considering the number of ATM was belong 0.40%.
- f) Most of the errors were in daytime (61%) and during departures (63%).
- g) Interaction with pilots revealed that when two taxiways are adjacent and parallel, there is a chance of making turn to the taxiway which is preceding the sign.

Action Taken

2.2 Even though the number of wrong turns were minimal and did not result in reciprocal traffic or aircraft incidents, a team of experts comprising of Airport Operator, Air Traffic Services Provider, Pilots from various airlines was formed as part of Runway Safety Team to recommend possible solutions. The team has visited various critical locations to identify mitigation measures suiting to the particular location. Pilots involved in each wrong turn was contacted and feedback was obtained and following actions were initiated.

- a) Additional Ground Markings at various taxiway intersections.
- b) Section of taxiway edge marking north of Taxiway H between Taxiway H6 and Taxiway G4 converted to retro reflective paint to increase conspicuity during night.
- c) Taxiway sign for Twy P1 adjusted to limit the view.
- d) Progressive taxi instructions by ATC to avoid confusion & cluttering.
- e) Preferred taxi routes published.
- f) Monthly reports to airlines.
- g) Masking of taxiway centre line lights of Taxiway P between Taxiway G & Taxiway H till introduction of Stop Bar on Taxiways.
- h) Stop Bar added at 08 critical locations on taxiways to control traffic.
- i) Addition of 07 location signs on taxiway H to improve situational awareness.
- j) Re-defined hotspots and published.
- k) Video Module regarding taxiing precautions at BLR, published through YouTube.

Conclusion

2.3 The instances of errors in taxiing were decreased to a level that the numbers were two or three in a month. It was evident that mere complying to the regulations / guidelines may not ensure adequacy for safe operations. It needs a collaborate effort to identify potential issues, opportunities to improve and to implement the mitigation measures to ensure safe operations in complex scenarios. Therefore, it needs to assign a greater role to Runway Safety Team (RST) beyond runway safety and the RST should consider Ground Operations Safety as a holistic aim.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information contained in this paper.

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