



International Civil Aviation Organization

INFORMATION PAPER

**SEVENTH MEETING OF THE ASIA/PACIFIC METEOROLOGICAL
REQUIREMENTS WORKING GROUP (MET/R WG/7)**

Bangkok, Thailand, 21 – 23 May 2018

Agenda Item 4: MET information required to support end-user systems

**TAILORED METEOROLOGICAL BRIEFINGS FOR TROPICAL CYCLONE
AFFECTING REGIONAL AERODROMES**

(Presented by Hong Kong, China)

SUMMARY

This information paper introduces a requirement by the local aviation community on conducting tailored meteorological briefings when a tropical cyclone is expected to affect airports in the region having heavy scheduled traffic with Hong Kong.

1. INTRODUCTION

1.1 With leaping growth of air traffic demand in the Asia Pacific region, traffic volume of major aerodromes and airspace are operating at or close to their maximum capacity. Recognizing the need for collaborative information sharing across Air Traffic Flow Management (ATFM) borders, the concept of Distributed Multi-Nodal ATFM Network had been endorsed by APANPIRG and validated through different phases of Operational Trial since 2015.

1.2 Throughout the Operational Trial, accurate capacity assessment of local and interconnected regional aerodromes in advance of actual operations was considered crucial. In the Asia Pacific region, inclement weather is one of the critical factors in capacity reduction. Improved situational awareness ahead of air traffic demand changes, based on the forecast from MET/ATM collaboration, can minimize the potential negative impact on aviation stakeholders.

1.3 As a requirement by the Airport Authority Hong Kong (AAHK), the local statutory body responsible for the HKIA operation, the Hong Kong Observatory (HKO) would arrange meteorological briefings when a tropical cyclone (TC) is expected to bring air traffic disruption to HKIA. Local aviation community including the air traffic control, airlines and airport operators would all update and share their assessment on operational constraints imposed by the TC-related weather during the briefing.

1.4 In recent years, the requirement has been extended to cover TCs that would affect nonlocal aerodromes with strong air traffic connection with Hong Kong, including airports of Taipei, Taichung and Kaohsiung.

2. DISCUSSION

Reasons for extending the requirement

2.1 For meteorological briefings related to TCs affecting HKIA, local aviation community indicated that these briefings facilitated collaborative decision making (CDM) in terms of flight rescheduling and recovery operations of the airport in the aftermath of the TCs.

2.2 It has been recognized that for prolonged high impact weather caused by intense TCs, the effect would not be limited to local aerodrome but may propagate to other aerodromes and air spaces in the region. Since a large number of flights are scheduled daily to and from Taipei¹, Taichung and Kaohsiung, there could be major disruption to the air traffic in Hong Kong due to re-scheduling of flights to these airports. Moreover, as HKIA is often selected as the alternates for flights to these airports, there could be a significant increase in diverted traffic leading to for example apron full situation. Thus nonlocal TC meteorological briefings were conducted for AAHK and airline operators having frequent flights connecting with these airports.

2.3 To ensure consistency, weather reports and forecasts used for the briefing were retrieved from METAR and TAF for the aerodromes concerned. Weather information and tailored products provided locally by HKO would also be used. Information presented during the briefing will be focused on timing of high impact weather brought by the TC, including time of the closest approach and departure of the TC based on the latest forecast track as well as alternative scenario, and onset/cessation of high wind and significant crosswind.

2.4 Based on the severity of disruption expected, airport and airline operators could assess the possibility of flight diversions to HKIA from aerodromes influenced by the TC, and delay of connecting flights during the period.

Feedback from the aviation community

2.5 The nonlocal briefings were well received by AAHK and the airline operators for facilitating their planning for mitigation measures when and as necessary in a coordinated manner. Such enhanced situational awareness, as also highlighted by the multi-nodal operation concept, further facilitated CDM within the aviation community. Coordinated response e.g. from ANSPs and airline operators, would be required to realize the full benefit of such nonlocal briefings.

2.6 In future, these nonlocal briefings may extend to cover other airports in the region, for example for those in Shanghai as well. Nevertheless, further scaling up of such service would require human resources and smooth information exchange at a regional level (e.g. SWIM).

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information contained in this paper, as an illustrative example of tailored meteorological information and services to support ATM operations under the multi-nodal ATFM operation concept.

¹ According to OAG report, 7 out of the 20 busiest international air routes involve HKG. HKG-TPE ranked the first in the top 20 busiest international air routes world-wide in 2017 with 29,494 annual flights contributed by 5 airline operators, and the HKG-PVG (Shanghai Pudong Airport) route came as the fifth with 20,818 annual flights. (www.oag.com)