



ICAO

*International Civil Aviation Organization***INFORMATION PAPER****Twenty-fifth Meeting of the Meteorology Sub-group
(MET SG/25)**

Online, 18 – 22 October 2021

Agenda Item 5: Research, development and other initiatives**THREE-HOURLY UPDATE OF AERODROME FORECASTS (TAF3)**

(Presented by Australia)

SUMMARY

Australia introduced an Aerodrome Forecast (TAF) service with a routine three-hourly update frequency at its major civil and military airports. This new service (named TAF3) replaced Australia's previous Trend Forecast (TTF) service, which was not as widely used by international operators as the TAF.

1. INTRODUCTION

1.1 The Australian Bureau of Meteorology (the Bureau) completed a review of its Trend Forecast in response to requests from the Australian aviation industry to investigate feasible alternative options.

1.2 The Trend Forecast Review final report recommended replacing the Trend Forecast (TTF) with an Aerodrome Forecast routinely issued three-hourly (TAF3) and proactively amended with latest forecast information.

1.3 The TAF3 is the same format as an Annex 3 Aerodrome Forecast (TAF) noting Australian differences. The change from the TTF to TAF3 was implemented on 5 November 2020.

1.4 The purpose of this paper is to provide information on some of the challenges experienced and lessons learnt from implementing a significant change to this aviation service.

2. DISCUSSIONBackground

2.1 The Trend Forecast (TTF) previously provided in Australia comprised of an aerodrome weather report (METAR/SPECI) and a concise statement of any expected significant changes in meteorological conditions expected in the three (3) hour period from the time of the report. The TTF was provided in a different format to that defined in Annex 3.

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2.2 For fuel planning purposes Australian Civil Aviation Safety Regulations deemed the three (3) hour period of validity of the TTF as superseding the TAF, and therefore the TTF could be used for short duration flight planning and in-flight decision making.

2.3 The TAF3 which has replaced the TTF is provided at Australia's ten major civil international airports (Sydney, Melbourne, Brisbane, Perth, Adelaide, Gold Coast, Cairns, Canberra, Darwin and Hobart) and seven military aerodromes.

2.4 The TAF3 exceeds the Annex 3 Section 6.2.6 Recommendation for routine TAF valid for 12 to 30 hours to be issued every six (6) hours. TAF3 are routinely issued at least every three (3) hours and are provided in the same format as a TAF noting Australian differences.

2.5 Updates to the Asia Pacific Air Navigation Plan to reflect the changes to the Trend Forecast and TAF are in progress.

2.6 Further information on TAF3 is available at <http://www.bom.gov.au/aviation/taf3/>

The Trend Review

2.7 Representatives from the aviation industry in Australia requested that the Bureau conduct a review of the Trend Forecast to investigate feasible alternative options and to better align with ICAO Standards and Recommended Practices.

2.8 In undertaking this review, the Bureau consulted with the Australian aviation industry and the Australian Defence Force through regular meetings and various industry forums. As part of the review a subject matter expert working group, the Trend Review Working Group (TRWG), was established to provide advice, examine alternative options to the TTF and identify implementation risks and issues. A draft report on the review of the trend forecast was also released publicly for wider industry feedback.

2.9 Unfortunately, there was a multi-year delay between the publishing of the final report and the implementation of the service change in November 2020, due to industry's requirement for the flight planning regulations that applied to the Trend Forecast to be applied to the TAF3.

2.10 After the implementation of the new TAF3, a Post Implementation Review (PIR) was conducted in February 2021. A TAF3 Service Review Workshop was also held in July 2021 with representatives from the Australian aviation industry. The purpose of this workshop was to seek industry feedback and experiences with the new TAF3, identify any issues and prepare an action plan to address these issues.

Lessons Learnt

2.11 Making such a significant change to an aviation service required extensive planning and industry consultation. Some of the key learnings from this process were:

- i. Stakeholder communication must be well executed and thorough;
- ii. Industry feedback should be taken as constructive throughout the life of the project and acted upon appropriately;

- iii. Education materials must be comprehensive and made available well in advance of the change;
- iv. The length of time between user agreement on a change to a service and the actual implementation of the new service should be minimised to reduce stakeholder fatigue, and minimise the risk of complacency during implementation of the new service;
- v. Changes to the implementation date of the new service should be minimised, and if the implementation date changes due to unforeseen circumstances allow stakeholders sufficient time to prepare for the implementation of the new service;
- vi. The need for such a large change should always be assessed against the backdrop of the external environment - its potential impact on stakeholders and subsequent risks to the implementation of a new service (e.g. COVID-19 pandemic);
- vii. Full end-to-end testing (to airlines) is necessary for a change of this size;
- viii. Thorough impact assessments of different sectors of the industry must be performed, to ensure each user need is fully understood. An example of this was the different user requirements of Air Traffic Control (ATC) compared to Airlines. Airlines were requesting frequent updates to the product to ensure they had the most up to date information. However, as ATC was required to broadcast every amendment to the product, the frequent updates became unmanageable;
- ix. Continuous review of the service with stakeholders following implementation must be performed, for example through both:
 - a. Regular (fortnightly) meetings with key stakeholders to address any issues identified; and
 - b. A formal post-implementation service review (6-12 months after implementation) to assess whether objectives of the service change have been met and to identify any issues or concerns with the change of service.

3. ACTION BY THE MEETING

- 3.1 The meeting is invited to:
 - a) Note the information contained in this paper and visit <http://www.bom.gov.au/aviation/taf3/> for the most up to date information relating to the project.
