International Civil Aviation Organization

FOURTEENTH MEETING OF THE COMMUNICATIONS/NAVIGATION/SURVEILLANCE AND METEOROLOGY SUB-GROUP OF APANPIRG (CNS/MET SG/14)

Jakarta, Indonesia, 19 – 22 July 2010

Agenda Item 14: Regional MET support to ATM

2) exchange of information on MET support for operations at aerodromes

ROUTINE TAF AMENDMENTS

(Presented by the United States of America)

SUMMARY

This year the United States Meteorological provider, the National Weather Service (NWS) began providing routine amendments at 35 of the 633 US TAFs locations. This paper will cover why this service began, the comments from the NWS forecasters providing the service, and the feedback from the user community.

1. INTRODUCTION

1.1 Based upon feedback from the U.S. Meteorological Authority (Federal Aviation Administration) the NWS began routine TAF amendments for 35 higher trafficked airports that impact the National Air Space (NAS). This service accommodates air traffic management coordination calls by providing the most up to date information. In addition, it provides a more recent forecast for the critical airport push times.

2. DISCUSSION

2.1 **Methodology:** The forecasters issue an amended TAF at 09z, 15z, and 21z daily. However, if the TAF has been amended within the previous hour (i.e. 08z and 14z), there is no need to issue another amendment.

- This is to encourage forecasters to update the TAF as needed, rather than wait for the routine issuance time. Routine amendments at other 3-hourly intervals (i.e. 03z, 09z, etc.) depend on the traffic demand at the specific airport.

- Forecasters focus on the 0 to 3 hour time frame keeping in mind the critical "push" times. These airport arrival rates are posted online for the U.S. at: http://www.fly.faa.gov/Products/AADC/aadc.html

2.2 **Statistics:** The statistics below from 1 Oct 2008 through 30 April 09 for Instrument Flying Rules (IFR) and below illustrates the percent improvement going from the normal 0-6 hour TAF cycle to the 3 hour routine amendments.

- Forecasters issuing 3 hour routine amendments show as much as a **19% improvement for Probability of Detection (POD)** in the 0-3 hour forecast versus the 0-6 hour forecast

- A **15% improvement for False Alarm Rate (FAR)**

- A **19% improvement for Critical Success Index (CSI)**

- These statistics indicate the more recent the TAF, the more accurate the forecast.

- See the following link…pages 43-58…for more information on this verification program: http://www.weather.gov/directives/sym/pd01016001curr.pdf

2.3 **Feedback from the forecasters:**

- "Issuing TAF's every 3 hours leads to a more proactive approach to changing TAF's based on observed conditions, and in many cases can lead to less chasing of observations.",
- "Issuing 3-hour TAF amendments has not been a major workload issue at our Office. We are able to provide more accurate information which is crucial for efficient management of air traffic during peak time periods."
- Workload has "… been very minimal; if the TAF's always current; it's easier to update than make large scale changes at synoptic issuance times."
- "We perform 3-hourly TAFs; the extra workload is minimal. Our philosophy is to do our best to keep all the TAFs current all the time."
- "The work load associated with 3 hourly TAFS is not significant. We endeavor to keep our TAFS as current as possible, so usually the AMD just consists of tweaks to wind or cig."
- "The workload impact has been negligible. The reasons are the same as described by the other offices."

2.4 **Feedback from the User Community:**

- "A wind direction ten or twenty degrees off in the next couple of hours is often critical to our runway selection and resulting traffic pattern, so it is important we know a forecaster has looked at the situation recently and is in tune to even small changes. "
- "That's great that the TAFs at several airports are now on a 3-hour schedule, so we know they'll be updated on a frequent basis. That's a definite plus for the dispatchers as well. ", Southwest Airlines

- "With 3-hour TAFs, we do not have to wait as long for an update. The more current forecast will give us the information we need to decide whether to operate (or not) to that airport. The longer we have to wait for a forecast, the more difficult it is in our decision making process. This is critical in hub airports where major operational decisions are being made based on weather getting better or worse. We can have more accurate predictions in terms of implementing Ground Delay Programs based on 3-hour forecasts. ", US Airways

2.5 **Appendix 1** includes a frequently asked Questions (FAQ) that was provided to forecasters before implementation. See below:

3 Conclusion

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

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Appendix 1

FAQs:

1) **"Why do we need to amend a TAF that doesn't need to be amended?"**

   The main point to emphasize is our customers are requesting these 3-hourly updates. They consider any forecast more than 3 hours old to be "stale", whether it is valid or not. By issuing these 3-hour AMDs, we are assuring them that we are keeping an eye on the weather.

2) **"Do I need to issue 3-hour AMDs for all of my TAF sites, and do this every 3 hours?"**

   Offices need to work with their customers to determine which sites (other than OEP35) and at which time(s) to issue the AMDs. At one site for example, they only issue AMDs for 09z and 15z daily. This is to accommodate conference calls for the morning (12z) and afternoon (21z) "push" times and ensure they have the latest information available to use in their planning. The FAA stated there was no need to issue AMDs at other times (03z and 21z), nor is there a need for 3-hour AMD at other TAF sites for that office.

3) **"This sounds like a lot of work and our forecasters already feel overloaded!"**

   Workload has not been an issue for the past year and a half where offices have issued 3-hour AMDs. In most cases, the offices simply check the latest observations and trends out to 6 hours, and send a quick update. It usually takes no more than a minute or two.