



METEOROLOGY GROUP OF THE EANPG (METG)

TWENTY-FIRST MEETING

(Paris, 6 to 9 September 2011)

Agenda Item 5: MET Support to Air Traffic Management (ATM)

A METEOROLOGICAL PERSPECTIVE FOR ATM OPERATIONS

(Presented by ENAV S.p.A., Italy)

SUMMARY

Since 2007, ENAV has been taking advantage at its best of having a Meteorological Service directly inside the ATM environment: full cooperation is given to the main ATC managers, especially when critical weather conditions are present in the terminal areas of Rome and Milan.

1. Introduction

- 1.1 One of the main areas of concern between MET and ATM is the lack of awareness of the ATM community about the MET capability of complying with their requirements. In addition to this, ATM is very often not fully satisfied with traditional ICAO Annex 3 weather watch products as they are considered too much generic, i.e. not so detailed as they would like.
- 1.2 In recent years, attention has been given on the important role that could be played by weather radar data in supporting the ATM community operations. It has to be recognized that the lack of detailed guidance on the use of these data represents today the major obstacle in their full harmonization and exchange. As a consequence, advanced weather products (information from weather radar maps, for example) cannot produce the expected benefits because not directly usable during operational activities.
- 1.3 Moreover, it has to be pointed out that the use of weather radar should be viewed in a broader perspective as a major source of information for both forecasting and nowcasting, with benefits to all aviation users.

2. Discussion

- 2.1 Based on the above mentioned needs, the Meteorological Department of ENAV S.p.A, the Italian Company for Air Navigation Service, has set up specific procedures involving the relevant Weather

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Forecasting Centres, the ATC Operational Managers in Milan and Rome Area Control Centres as well as the relevant Control Towers, with the aim to timely communicate the presence or forecast of adverse phenomena in the terminal areas of Rome and Milan.

- 2.2 These procedures foresee a strategic and a tactical phase. In the strategic or *pro-active* phase (pre-adverse weather event actions while planning the daily air traffic flows), full support is given to the main ATC Managers (Rome and Milan ACCs and TWRs) with a continuous briefing activity, in support to the traditional Weather Watch information. To further improve this cooperation we have already planned for the movement of the Forecasters, by the end of 2011, directly into Rome and Milan ACCs Ops Rooms, side by side with the ACCs Managers, thus ensuring a closer contact and direct support to all ATC processes.
- 2.3 Main goal of this side-by-side activity will be the immediate translation of probabilistic MET information into deterministic ATM decisions, where the “human forecaster” plays a key role in the decision making activities related to planning.
- 2.4 A new operational tool, especially developed for managing and integrating MET data from different sources (airport AWOS, satellite systems, radar systems, lightning detection systems, etc.), called **IWS** (*Integrated Weather System*), was developed. IWS will start operations by the end of 2011 too, with clients available inside all ATC Ops Rooms. In the next future, IWS will provide meteorological data directly into ATC environment (Controller Working Positions).
- 2.5 For the tactical phase, specific procedures were established, for communicating the presence or forecast of adverse weather phenomena, aimed at transforming in *pro-active* the traditional *reactive* actions of bad weather event recovery. For convective phenomena, an extensive use of weather radar data is made. ENAV owns two Gematronik weather radars, sited in Aranova (north of Fiumicino) and Carpiano (south of Linate), which give fully coverage of the Rome and Milan TMAs. Moreover, ENAV produces a synthesised image of almost the whole Italian territory, by exchanging radar data with Civil Protection Department and the main Regional Weather Services.
- 2.6 For a better operational use of information related to convective phenomena, a new kind of report, named *TAD* (*Thunderstorm Area Detection*), was introduced (first issue on Monday, 9th March 2009), for reporting data derived from ENAV’s ground weather radar. TAD is also distributed to operators and flight crew members, as a part of the pre-flight information required by Annex 3.
- 2.7 For any further reference: (*Marco Tadini email here*)

3. Action by the METG

- 3.1 The METG is invited to note the contents of this information paper.
- 3.2 The METG is invited to underline the need of ICAO’s guidance and provisions for new and more specific Weather Watch products, directly related to the needs of air traffic management in TMAs, with particular emphasis on reporting weather radar data to ATC.
- 3.3 The METG is invited to note the positive experience of ENAV in embedding the MET staff in ATM environments, ensuring a “real” integration of meteorological information in ATM processes.

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