



FAA
Air Traffic Organization



Setting the Stage

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For: Coordination Meeting between MET/AIM/ATM
Date: July 26-28, 2016

Objective

To analyze the mechanisms established by States in order to ensure the access and exchange of aeronautical and meteorological information services in support of ATM and ATFM.

- From Invitation Letter dated 6 May 2016



By the end of this meeting...

- Support ATFM using MET & AIM information (and other information)
 - Identify specific contingency conditions
 - Identify specific repeatable scenarios
 - Create the draft support procedures
 - Create the draft ATFM/CDM “fits all” procedures
- Ensure the access and exchange of MET & AIM information (and other information)
 - Identify the necessary information (how it is used)
 - Identify the information source
 - Identify the access methods



Steps

- Establish the common understanding of contingency conditions and characteristics
- Establish the common situational awareness
 - Gather and present the data/information
 - Agree with the condition
- Develop a Plan to mitigate the condition
- Execute the plan
 - Use pre-determined process/procedures
 - Ad-hoc or flexible responses



Contingency Conditions

Traffic Flow is interrupted by Capacity and Demand imbalance due to rapid capacity reduction or demand increase.

Cause → data source

Weather Related
including hurricanes



Geological Event Related
inc. earthquakes and volcanic activities



Resource Related
inc. equipment failure, airport closure



Excess Demand Related
supporting special events



Characteristics

- Predictable
- Unpredictable

- Repeatable
- Unrepeatable



Weather Related

- Somewhat predictable and repeatable
- Somewhat unpredictable and unrepeatable

Cause → data source

- World area forecast system – **WAFS** (products in digital form should be disseminated by WAFS Washington using the SADIS 2G satellite broadcast and the SADIS FTP service and/or WIFS.)
- Tropical cyclone advisory centers (**TCAC**) (Miami and Honolulu have been designated to prepare tropical cyclone advisory information.)
- Aerodrome warnings
- Wind shear warnings and alerts
- **SIGMET**
- Weather data from U.S. National Weather Services
- Other OPMET information including METAR, SPECI and/or TAF



Geological Event Related

- May or may **not** be predictable
- Highly likely unrepeatable

Cause → data source

- US Volcano observatories – (Alaska, California, Cascades, Hawaiian, Yellowstone.)
- Volcanic ash advisory centers (**VAACs**) - (Anchorage, Montreal, and Washington have been designated to prepare volcanic ash advisory information.)
- International Airways Volcano Watch (**IAVW**)
- National Oceanic and Atmospheric Administration (NOAA) /National Weather Service – National Tsunami Warning Center
- US Geological Survey (USGS) – Earthquake Hazards Program



Resource Related

- Scheduled (predictable) or not
- Known or unknown cause impact the recovery time

Cause → data source

- In US, National Operations Control Center (**NOCC**) operates 24/7 monitors and provides national coordination of facility restoration activities and to provide status information on NAS equipment. The NOCC is a conduit to the regional Maintenance Control Centers (**MCC**).
- The **NOTAM** office disseminates information on unanticipated or temporary changes to components of, or hazards in the NAS until the associated charts and related publications have been amended. Examples of NOTAM information include: Runway closures, Malfunctions to navigational aids, Missile launches, Special traffic management programs (STMP), Changes affecting airport arrival and departure procedures.



Resource Examples

(Alternate Capabilities)

- **Instrument Landing System (ILS) Approaches**
NAVAID outage – requires primary and alternate missed approach procedures using different NAVAIDs should one fail.
- **Navigational Aid Outages** – alternate procedures can be implemented with 24/7 NOTAM operations for instrument flight procedures.
- **Area Navigation (RNAV)** – Establishing RNAV route structure and instrument flight procedures allows operations in the event of catastrophic failure.



Excess Demand Related

- Predictable and Repeatable? Well, depends...

Cause → data source

- In US, demand and capacity imbalance created by an event is mostly controlled by the impacted facilities. Occasionally, the Special Traffic Management Program (**STMP**), a web-based reservation system, is used
- Demand and Capacity Balancing Methods
 - GS/GDP
 - AFP
 - MIT/MINT
 - Reroutes



Common Situational Awareness

To establish Common Situational Awareness

- Identify the data/information needed
- Gather and present the **common** data/information
- Discuss the condition using the **common** data/information
- Agree with the condition



Plan to Mitigate

Use Collaborative Decision Making (CDM) approach to establish the **Plan** to mitigate the undesirable conditions

CDM is a phrase that has very broad implications. It is really more a philosophy on how to conduct business between the various components of aviation transportation, both government and industry.

There are two central principles to CDM:

- Better information will lead to better decision making
 - Tools and procedures need to be in place to enable the ATCSCC and the National Airspace System (NAS) users to more easily respond to changing conditions
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- Use established process/procedures
 - Use “plan” for Ad-hoc or flexible responses





Questions?

Thank you!

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