Flow Evaluation Team

Yearly Review

Presented to: CDM General Session

By: Walter Williams / FAA & Chris Vital / JBU

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Federal Aviation Administration

FET Members and Mission Statement

The Flow Evaluation Team strives to increase system efficiency by reducing route coordination time and enhancing system planning through the creation of common situational awareness of potential route alternatives, procedures, and coordination processes

FAA	
Rev. Walter Williams	ATCSCC
Dan Kerr	NATCA/DCC
Ron Foley	NATCA/ZOB
Industry SME	
Chris Vital	Jetblue
Darin Tietjen	Southwest Airlines
Dean Snell	NBAA
Drew Toman	United Airlines
Michael Karrels	Delta Air Lines
RB Haggerty	Airlines for America
Rich Voigt	FedEx
Tom O'Neill	American Airlines
Technical Experts	
Dr. Phil Smith	Theee Ohio State University
Tim Niznik	American Airlines

Happy Birthday Michael Karrels!

Closed Taskings

Tasking 135 – Florida CDR Analysis

- FET supported the development of ZMA CDR's
- Collaborated with TEMA in evaluating recently developed CDR's and provided recommendations on best usage in day-to-day operations.
- SWAP Advisory was developed to address which routes flight operators can file and routes that require coordination.
- Cleared misconceptions of the term "overwater" when a flight crew is assigned an AR/Y route to/from ILM/DIW. Since these routes are within 162nm of the shoreline, they are within limitations of most flight operators.
- Addressed International CDR overflight permit requirements.

ATCSCC Advisory

ATCSCC ADVZY 015 DCC/ZMA 08/24/2024 ZMA SWAP IMPLEMENTATION PLAN_FYI

RAW TEXT:

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EVENT TIME: 24/1400 - 24/2300
CONSTRAINED FACILITIES: ZMA

THIS ADVISORY IS FOR PLANNING PURPOSES ONLY. CUSTOMERS ARE ENCOURAGED TO
COMPLY  WITH ALL ATCSCC ROUTE ADVISORIES. IF NO ATCSCC ROUTE ADVISORIES ARE
IN EFFECT. CUSTOMERS ARE ENCOURAGED TO FILE  NORMAL ROUTINGS AND ANTICIPATE
ALTERNATE ROUTES.

ZMA SWAP STATEMENT:
SEVERE WEATHER AVOIDANCE PLANS ARE EXPECTED FOR ZMA AIRSPACE AND SOUTH FLORIDA
TERMINAL AREAS AFTER 1600Z

WEATHER CONSTRAINTS:
THUNDERSTORMS ARE EXPECTED TO IMPACT SOUTH FLORIDA DEPARTURE AND ARRIVAL ROUTES
AND A MAJORITY OF ZMA AIRSPACE.

PLANNED ALTERNATE DEPARTURE ROUTES:
ALL GATES ARE ANTICIPATED TO BE IMPACTED  DUE TO THE NATURE OF THE THUNDERSTORMS
CAUSING CODED DEPARTURE ROUTES AND/OR SWAPS OUT OF AN ALTERNATE GATE.

PLANNED ALTERNATE ARRIVAL ROUTES: CUSTOMERS CAN EXPECT  POSSIBLE PLAYBOOKS, TACTICAL
ROUTE ADJUSTMENTS HOLDING ON INBOUND FLIGHTS, ANDZMA GROUND STOPS DUE TO CONVECTIVE
WEATHER IMPACTS TO AIRSPACE SURROUNDING AND WITHIN THE SOUTH FLORIDA TERMINAL AREA.

EXPECT LENGTHY DELAYS DUE TO INCREASED MIT AND ATA/DTA SWAPS.  FLIGHTS THAT CANNOT
FLY MORE THAN 162NM OFFSHORE CAN EXPECT ADDITIONAL DEPARTURE DELAYS DUE TO LIMITED
ESCAPE ROUTES.

DO NOT FILE CDR'S THAT END IN 2 OR 3. THESE ROUTES ARE RESERVED FOR ATC DETERMINATION.

FUEL ADVISORY:
PLEASE FUEL ACCORDINGLY FOR POSSIBLE DEPARTURE/ARRIVAL GATE CHANGES, PLAYBOOKS, TACTICAL
REROUTES, HOLDING AND OTHER TRAFFIC MANAGEMENT INITIATIVES DUE TO AIRSPACE CONSTRAINTS
IMPACTED BY SEVERE WEATHER ACTIVITY.

RMKS: INTERNATIONAL CDR'S REQUIRE APPROPRIATE OVERFLIGHT PERMITS.

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Tasking 138 – TOS Requirements List

- Created TOS recommendations which align with FAA eLMS modules currently being developed.
- Establishes primary guidance for TOS generators and software development.
- Implements safeguards for flight operators to ensure proper TOS route submissions.
- Document is ready for distribution / TFM learning page?

Primary requirements for a TOS generator:

- The TOS generator must provide the Dispatcher/Flight Planner with a list of possible route options to select from in order to specify the routes for inclusion in the TOS for a flight.
  - Only routes in this list can be selected for inclusion in the TOS.
  - These routes cannot be edited.
  - Only routes that are vetted (selected from the following lists) will be displayed in this list:
    - CDRs
    - FAA preferred routes
    - Routes tying into a playbook play
    - Other vetted, pre-coordinated routes that have been agreed by affected facilities in cooperation with ATCSCC (such as the ADS-B Gulf routes).
- Allow up to a total of five (5) routes per each TOS submission but no more than 5 routes.
  - Note: This number should be coded as a variable so that it can be increased in the future if necessary.
- Indicate airports in TOS route options using the ICAO code (e.g., KORD).
- Assign a numerical RTC value for each possible TOS option that indicates the desired rank ordering of the TOS options when they are displayed in the RAD as accessed via PDRR. This prioritization as communicated by the RTC value should not have any ties.
- Include the filed flight plan in the TOS and assign an RTC value for that route that is appropriate relative to its desirability compared to the other routes in the TOS. (In many cases, it will be the most preferred route with the lowest RTC value.)
- Only include TOS route options for which the flight is fueled.
- Only include TOS route options that the flight is approved to fly (including such things as requirements for single engine drift down; overwater equipage; and certification of the flight crew for overwater flights).
- Ensure that the Dispatcher/Flight Planner does not produce a TOS where the shorter routes in the TOS will be overweight at landing if flown.
- Support the ability to submit the TOS via SWIM.
- Allow the Dispatcher/Flight Planner to submit the TOS at any time prior to OFF, but with the understanding that PDRR will not be able to access that information until the flight plan has been filed with the FAA.
- Prevent the Dispatcher/Flight Planner from submitting an initial or revised TOS for display in PDRR once a flight is OFF.
- Once the OFF message is transmitted, replace the TOS with any applicable route(s) providing

Open Taskings

Tasking 141 – SWAP Statement for Automation Feasibility Study

- During each shift in the summer, Dispatchers interpret numerous SWAP, CDR and route advisories to select the best available route for every flight they have operational control of. This can get cumbersome when there are several thunderstorm events active across the NAS.

- FET is investigating potential improvements in the design of SWAP statements to help determine which CDR's are appropriate. Such improvements would assist Dispatchers on specific CDR/Playbook routes and list the information with the flight paperwork as a potential re-route or TOS submission.

- Provide recommendations on integrating detailed information into existing statements.

Tasking 141 – SWAP Statement for Automation Feasibility Study

Evaluated 10 available SWAP statements issued by the following centers last year:

ZBW / ZNY / ZDC / ZMA / ZAU / ZHU / ZFW / ZMP / ZDV / ZAB

Most of the information provided used a combination of the following:

Airways/CDR's

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IMPACTED: Q167/Q97   USE CDR: B7/N4/DW/29
IMPACTED: Q75/Q448/Q406/Q480   USE CDR: N4/Y5/
IMPACTED: J49/HNK/J59/SYR   USE CDR: 29/22/16
IMPACTED: GONZZ/GOATR   USE CDR: Y5/N4/CAN ROU
N90 ARRIVALS USE CDR EX
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Fixes

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PLANNED ALTERNATE DEPARTURE ROUTES: SERMN, PHLYER, GREKI
POSSIBLE REROUTES / CDR'S WILL BE PROVIDED AS NECESSARY.
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Gates

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PLANNED ALTERNATIVE DEPARTURES ROUTES:
WEST, NORTH, SOUTH AND EAST GATES ARE ANTICIPATED TO BE IMPACTED (
COMPACTED DEPARTURE ROUTES AND/OR SWAPS OUT OF AN ALTERNATE GATE.
INCREASED DEPARTURE DELAYS AND MIT ASSOCIATED WITH THIS CAN CAUSE
LONGER THAN NORMAL DEPARTURE WAIT TIMES.  PLEASE FUEL ACCORDINGLY.
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Tasking 141 – SWAP Statement for Automation Feasibility Study

- After discussions with ZTL / ZAU / ZDV and a review of SWAP statements from various facilities across the NAS, FET had identified many commonalities and significant differences at each facility.
- Additional discussions are planned with more facilities in the upcoming months.

Tasking 144 – NRP Adjustments

Since Advisory Circular 90-91K was issued back in 2008, new and emerging technology has allowed flight operators greater ability to optimize routes on various markets across the National Airspace System (NAS). This has also increased usage of North America Route Program (NRP) in areas where structured routes are more preferred due various airspace restrictions or high traffic volume. Additionally, several safety concerns have arisen potentially putting NRP at risk of not being utilized in certain parts of the country.

Make recommendations for potential adjustments to NRP to fit today's NAS, not the NAS of 2008, including:

a. Definition of a "Waypoint", bringing it current as well as attempt to future-proof the definition.
b. Evaluate the distances specified in AC90-91K, do they fit today's environment.
c. Consider other elements of the Advisory Circular that may need modernizing.

Tasking 144 – NRP Adjustments

What is a waypoint?

FAA Definition:

A predetermined geographical position used for route/instrument approach definition, progress reports, published VFR routes, visual reporting points or points for transitioning and/or circumnavigating controlled and/or special use airspace, that is defined relative to a VORTAC station or in terms of latitude/longitude coordinates.

Ref: FAA Glossary

ICAO Definition:

A specified geographical location used to define an area navigation route or the flight path of an employing area navigation.

Ref: ICAO Annex 11

Tasking 144 – NRP Adjustments

Initial Findings For Collaboration

- 200nm off a published airway. Should this be a requirement in today's operations?
- A waypoint in every center. Used to be a HOST requirement, but no longer necessary in ERAM. If necessary, can NRS waypoints solve this?
- The use of "Pitch and Catch" points. Original NRP document described its use. Should this be reintroduced for high traffic areas with route optimization flexibility?
- Reintroduce altitude-based requirements for NRP?
- Commercial flight operators route restrictions such as 90 degree turns from a waypoint?
- Increased visibility of facility LOA information.

Tasking 144 – NRP Adjustments

Industry Discussion

Hosted by SWA on March 11, 2025

- AAL / ASA / DAL / JBU / SWA / UAL / A4A / NBAA attended in person or virtual
- Information in the current AC90-91K has become outdated with the implementation of ERAM.
- Industry would like to take advantage in optimizing across the NAS, but there are areas where structured routes make more sense.
  - Reevaluating 200nm restrictions provides the biggest benefit on Transcon flights
- Most CDM flight operators have NRS waypoints programed into their Nav Database.
  - Only 1 regional carrier does not.
- A more strategic approach could prove to be a better use of NRP. Further information provided after we discuss our findings with the Facility SME's.

Questions?