Traffic Flow Management System FSM ADL Parameters File Format Specification for the Traffic Flow Management-Modernization (TFM-M) Program

TFM-M
Traffic Flow Management - Modernization

Final, Release 9, Version 5.5

Contract Number: DTFAWA-04-C-00045
CDRL: E05

February 11, 2013

Prepared for:
U.S. Federal Aviation Administration

Prepared by:
CSC
North American Public Sector – Civil Group
15245 Shady Grove Road
Rockville, MD 20850

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CSC/TFMM-10/1077

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FSM ADL Parameters File Format Specification

APPROVAL SIGNATURE PAGE

APPROVAL SIGNATURES

PARTICIPANT	NAME	DATE

FSM ADL File Format Specification

Date:	February 11, 2013	
Feature Described:	FSM ADL Parameters File Format	
Document Version:	5.5	
Remarks:	Effective TFMS R9 / FSM 10.0	

Revision History		
Version	**Date**	**Description of Change**
1.0	8/2/2006	Initial Document Release / FSM 8.2 • Documents Prior Informal Discussions and Emails
2.0	11/03/2006	Changes for FSM 8.4 • "AAR" Keyword Relabeled "Program_Rate" • "POPUP_FACTOR" Keyword Section Modified To Support Hourly and 15 Minute Pop-Up Factor.
2.1	11/09/2006	• Clarified Nomenclature for AAR and PROGRAM_RATE Keywords. • Updated ADL and FADT Document Version Reference
2.2	3/7/2006	• Update Applicability of the "COMPRESS_LAST_CTA" keyword.
3.0	3/18/2007	Changes for FSM 8.4a (Opsnet Automation Release) • Incorporated Changes to Support Opsnet Automation.
3.1	4/13/1007	Changes Incorporated For Development Issues. • Modified Format of CHARGE_TO Keyword Values. • Modified IC_CODE, Separated Values Into Two Separate Keywords of IC_CODE and IC_TEXT. • Replaced Keyword IC_TEXT_CATEGORY With IC_CATEGORY. • Replaced Keyword IC_TEXT_CAUSE With IC_CAUSE.
3.2	3/3/2008	• Clarified number of centers, airports and flights that can be listed for various keywords.

Revision History		
Version	**Date**	**Description of Change**
4.0	6/18/2008	Changes for FSM 8.7 • Added Keyword COMPRESSION_TYPE to Indicate Type of Compression • Added Keyword EXEMPT_AFP to indicate exempt AFPs. • Modified AAR, ADR, PR, and POPUP FACTOR to allow data out to 36 hours. • Removed Keyword EXEMPT_SCHED_USER • Removed Keyword GS_STATEMENT • Removed Keyword GS_BY_STATUS • Updated FADT Document Version Reference • Carried over improved descriptions for Event and Cumulative time from FADT documentation.
4.1	7/11/2008	• Added Keyword AAR_SET_TO.
4.2	7/23/2008	• Editorial Correction & Clarification in DEP_EXEMPT_TYPE and NOW_PLUS keywords.
4.3	11/05/2008	• Added text indicating TFMS R3 usage of the OVERRIDE_AFP keyword. • Changed occurrences of "ETMS" to "TFMS" when referencing TFMS keyword usage. • Corrected miscellaneous typos.

5.0	8/10/2009	Changes for TFMS R5 / FSM 9.0
		• Added Support for UDP.
		    o Added Keyword "DELAY_MULTIPLIER"
		    o Added Keyword "EARLIEST_SLOT"
		• Updated ETMS versus TFMS Terminology.

5.1	8/18/2009	• General Corrections
5.2	3/17/2010	• General Corrections
5.3	5/24/2010	• Keyword "HISTORICAL_FACTOR" changed to "RESERVED_RATE"
5.4	9/01/2010	• General Corrections

5.5	2/11/2013	Changes for TFMS R9 / FSM 10.0
		• Added Support for CTOP.
		    o Added Keyword "CTL_PROGRAM"
		• Reformatted Keyword Applicability table in section 2.1
		    o Added CTOP column and values

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General Description

1.1. Contents

This document describes the various ADL parameters blocks generated by FSM as part of the TMI issuance process. These blocks are transmitted to the TFMS-Core for inclusion in subsequent ADL files. These specifications are intended to provide the details of the parameters blocks which are summarized in the ADL and Broadcast File Format Specification.

1.2. File Naming

Not applicable.

1.3. Organization

Not applicable.

1.4. General Formatting

Some general notes about the field descriptions and formats:

- Field syntax is given in an abbreviated shorthand using the following conventions:
  - L – represents one upper-case letter
  - d – represents one digit
  - c – represents one alphanumeric character (either letter or digit); by convention, CDM uses only upper case letters in the data fields
  - [] – means the characters within are optional; any characters not shown in brackets are required
  - Example: Ldd[cc] means an upper case letter followed by two required digits and zero, one, or two characters.
- Keywords and values are separated by two or more blanks.
- No field can be blank; if no value is defined for that field, it is not listed or it has some appropriate default value.

2. Program Parameters Blocks

2.1. KEYWORD APPLICABILITY

The table below defines which keywords are required, optional or not supported, dependent on the type of parameters block.

		ADL Parameters Block Type				
Reference	Keyword	GDP[1]	GS	CTOP	BKT	COMP[2]
1.	PROPOSED or ACTUAL	R	R	R	R	R
2.	ELEM_NAME	R	R	R	R	R
3.	ELEM_TYPE	R	R	R	R	R
4.	CTL_PROGRAM	O	O	R	O	O
4.5.	DATA_TIME	R	R	R	R	R
5.6.	ADL_TIME	R	R	R	R	R
6.7.	REPORT_TIME	R	R	R	R	R
7.8.	REPORT_TIME_FULL	R	R	R	R	R
8.9.	LAST_GDP_END_TIME	R	ns	ns	ns	ns
9.10.	EVENT_START_TIME	R	R	R	R	R
10.11.	EVENT_END_TIME	R	R	R	R	R
11.12.	CUMULATIVE _START_TIME	R	R	R	R	R
12.13.	CUMULATIVE _END_TIME	R	R	R	R	R
13.14.	PURGE_BEFORE_REVISION	R	ns	ns	ns	ns
14.15.	PURGE_AFTER_REVISION	R	ns	ns	ns	ns
15.16.	COMPRESS_LAST_CTA	R	ns	ns	ns	R
16.17.	AIRCRAFT_TYPE	R	R	ns	R	ns
17.18.	ARRIVAL_FIX	R	R	ns	R	ns
18.19.	CARRIER_NAME	R	R	ns	R	ns
19.20.	NOW_PLUS	R	R	R	R	ns
20.21.	POPUP_FACTOR[3]	O	ns	ns	ns	ns
21.22.	RESERVED_RATE[3]	O	ns	ns	ns	ns
22.23.	EXEMPT_TYPE	R	R	R	R	ns
23.24.	EXEMPT_DISTANCE	O	ns	ns	O	ns
24.25.	AIRPORT_IF_DISTANCE	O	ns	ns	O	ns
25.26.	EXEMPT_CENTER_ORIG	O	ns	O	O	ns

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Reference	Keyword	ADL Parameters Block Type				
		GDP[1]	GS	CTOP	BKT	COMP[2]
26.27.	EXEMPT_AIRPORT_ORIG	O	O	O	O	ns
27.28.	EXEMPT_AIRPORT_DEST	O	ns	O	ns	ns
28.29.	EXEMPT_FLIGHT	O	O	O	O	ns
29.30.	NONEXEMPT_CENTER_ORIG	R	ns	R	ns	ns
30.31.	NONEXEMPT_AIRPORT_ORIG	O	O	O	O	ns
31.32.	NONEXEMPT_AIRPORT_DEST (not currently implemented in FSM)	O	ns	O	ns	ns
32.33.	ADJUST_MINUTE	ns	ns	ns	R	ns
33.34.	DELAY_CEILING	R	ns	ns	ns	ns
34.35.	OPERATION_TYPE	R	ns	ns	ns	ns
35.36.	COMPRESSION_TYPE	ns	ns	ns	ns	R
36.37.	DELAY_MODE	R	ns	R	ns	ns
37.38.	DELAY_LIMIT	O	ns	R	ns	ns
38.39.	DELAY_MULTIPLIER	O	ns	ns	ns	ns
39.40.	EARLIEST_SLOT	O	ns	ns	ns	ns
40.41.	OVERRIDE_CARRIER	O	ns	ns	ns	O
41.42.	OVERRIDE_AFP	O	ns	ns	ns	ns
42.43.	EXEMPT_AFP	O	ns	ns	ns	ns
44.	EXEMPT_CTOP	O	ns	ns	ns	ns
43.45.	PROGRAM_RATE[3]	R	ns	R	ns	ns
44.46.	SET_AAR	R	ns	ns	ns	ns
45.47.	DEP_EXEMPT_TYPE	R	R	R	ns	ns
46.48.	CHARGE_TO	R	R	R	R	R
47.49.	CHARGE_TO_NONFAA	R	R	R	R	R
48.50.	IC_CODE	R	R	R	R	R
49.51.	IC_TEXT	R	R	R	R	R
50.52.	IC_CATEGORY	R	R	R	R	R
51.53.	IC_CAUSE	R	R	R	R	R
52.54.	IC_EQUIPMENT	O	O	O	O	O
53.55.	TOTAL_FLIGHTS	R	R	ns	R	R
54.56.	AFFECTED_FLIGHTS	R	R	ns	R	R

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Reference	Keyword	ADL Parameters Block Type				
		GDP[1]	GS	**CTOP**	BKT	COMP[2]
~~55.~~57.	STACK_VALUE	R	ns	ns	ns	ns
~~56.~~58.	TOTAL_DELAY_BEFORE	R	R	ns	R	R
~~57.~~59.	TOTAL_DELAY_AFTER	R	R	ns	R	R
~~58.~~60.	TOTAL_DELAY_DIFFERENCE	R	R	ns	R	R
~~59.~~61.	MAX_DELAY_BEFORE	R	R	ns	R	R
~~60.~~62.	MAX_DELAY_AFTER	R	R	ns	R	R
~~61.~~63.	MAX_DELAY_DIFFERENCE	R	R	ns	R	R
~~62.~~64.	AVG_DELAY_BEFORE	R	R	ns	R	R
~~63.~~65.	AVG_DELAY_AFTER	R	R	ns	R	R
~~64.~~66.	AVG_DELAY_DIFFERENCE	R	R	ns	R	R
~~65.~~67.	MIN_DELAY_BEFORE	R	R	ns	R	R
~~66.~~68.	MIN_DELAY_AFTER	R	R	ns	R	R
~~67.~~69.	MIN_DELAY_DIFFERENCE	R	R	ns	R	R

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Key

- R – Indicates a keyword which is always listed in that type of Parameters Block

- O – Indicates a keyword which may or may not be listed in that type of Parameters Block

- ns – Indicates a keyword which is never listed in that type of Parameters Block

Notes

1. The GDP Parameters Block is used for GDP and AFP programs

2. The COMP Parameters Block is used for both GDP and AFP program compressions.

3. Keyword encapsulates multi-line data and is listed as START_keyword / END_keyword.

2.2. Parsing Hints

Except for keywords Program Type (1), ELEM_NAME (2), and ELEM_TYPE (3) for which a specific occurrence order is indicated, all other keywords may occur in any order. Any process parsing the parameters should be build to handle changes in ordering.

Keywords are added and removed to support FSM User Interface changes. Any processes parsing the parameters should be built to ignore any unknown keyword which may be added in the future.

2.3. Field Descriptions

This section describes each keyword that could occur in the in the GDP, COMP, BKT, and GS parameters blocks. Each keyword item description includes:

- The name under which the data item appears in the parameters

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- An explanation of how the keyword links back to the FSM User Interface. This is provided since the purpose of these parameters blocks is to allow for repopulation of the FSM GDT/IPM Setup dialogs from the ADL.

- An expanded descriptor for the data item

- The format of the field

- When necessary, a definition of the field and how it is filled

The list of keywords is;

1. Program Type – PROPOSED or ACTUAL

   FSM User Interface Field – GDT Setup; "Run Proposed" / "Run Actual" Buttons

   This is a required value indicating whether the parameters block describes an Actual or Proposed TMI. An Actual TMI is one that has actually been implemented (flights have been issued CTDs, CTAs, and ASLOTS). A Proposed TMI is one in which only parameters have been transmitted so that FSM users can evaluate the impact of the TMI. This must always be the first line of the parameters block. Note that this line is an exception to the keyword value formatting as that only the value is present. This line is used by TFMS.

2. ELEM_NAME: Element Name – FCAccc for FCAs or Lccc[c] for Airports

   FSM User Interface Field – Determined by Element Selected For GDT Mode

   This is a required keyword that defines the element name for the program defined by the file. The element name can be an airport for GDPs or an FCA for AFPs. This must always be the second line of the parameters block.

3. ELEM_TYPE: Element Type – APT or FCA

   FSM User Interface Field – Determined by Element Selected For GDT Mode

   The type of element described in this ADL. Type can be APT or FCA. This must always be the third line of the parameters block.

4. CTL_PROGRAM: Control Program –FCAddd for AFPs / CTPddd for CTOPs / LLL[L] for GDPs/GS

   This is a required keyword for CTOPs and an optional keyword for all other TMIs that that defines the name of the Controlling Program.

   - For an AFP, the CTL_PROGRAM is the name of the FCA for which the TMI was issued.

   - For a CTOP, the CTL_PROGRAM is the CTOP short name.

   - For a GDP/GS, the CTL_PROGRAM is the name of the airport for which the TMI was issued.

4.5. DATA_TIME: Program Data Time – dddddddddddddd

   FSM User Interface Field – Calculated Time Program Was Modeled or Run

   This is a required keyword that defines data time used for modeling a program. For operational programs the data time is always the same as the ADL time. The value shall be in the format of yyyymmddhhmmss.

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5.6. ADL_TIME: Model ADL Time – dddddddddddddd

FSM User Interface Field – Determined by Element Selected For GDT Mode

This is a required keyword that identifies which ADL (based on the ADL time) was used for the modeling of the TMI defined by parameters. The value shall be in the format of yyyymmddhhmmss. Note that when converting this to the time used within an ADL file name the year and month data must be stripped.

6.7. REPORT_TIME: Program Report Time – ddddddddL

FSM User Interface Field – Based On Time Program Was Modeled

This is a required keyword that defines the report time of the TMI. This is the same time and format used within the FADT file name and the names of other files associated with this program issuance. The REPORT_TIME is typically used as a string to recreate the names of various files created when a TMI is modeled. The value shall be in the format of ddhhmmssZ. (Also See FADT Specification Section 2.1)

7.8. REPORT_TIME_FULL: Program Report Time Full Date/Time – dddddddddddddd

FSM User Interface Field – Based On Time Program Was Modeled

This is a required keyword that defines the report time of the TMI. This is the same time but a different format then used within the FADT file name and the names of other files associated with this program issuance. The REPORT_TIME_FULL is typically used as a date time to create a unique record in FSA each time a TMI is issued. The value shall be in the format of yyyymmddhhmmss.

8.9. LAST_GDP_END_TIME: Last GDP/AFP End Time – NA or dddddddddddd

FSM User Interface Field – Based on Prior TMI Cumulative End Time from Existing Parameters

Indicates the end time of the last issuance of a GDP/AFP for that element. The value shall be in the format of yyyymmddhhmm. "NA" is indicated when the parameters define an initial GDP/AFP.

9.10. EVENT_START_TIME: TMI Start Time Selected – dddddddddddd

FSM User Interface Field – GDT Setup; Parameters Tab > "Start"

This is a required keyword that defines the start time of the traffic management initiative contained in that FADT. The FADT can define a TMI in which the start time is earlier or later than the cumulative start time. For GDP-Ground Stops the EVENT_START_TIME is based on flight ETDs; for all other TMIs it is based on flight ETA (airport elements) or ENTRY (FCA elements). The value shall be in the format of yyyymmddhhmm. This line is used by TFMS to populate specific fields within the FSM Broadcast file. (Also See FADT Specification Section 2.1)

10.11. EVENT_END_TIME: TMI End Time Selected– dddddddddddd

FSM User Interface Field – GDT Setup; Parameters Tab > "End"

This is a required keyword that defines the end time of the traffic management initiative contained in that FADT. The FADT can define a TMI in which the end time is earlier or later than the cumulative end time. For GDP-Ground Stops the EVENT_END_TIME is based on flight ETDs; for all other TMIs it is based on ETA (airport elements) or ENTRY (FCA elements). The value shall be in the

format of yyyymmddhhmm. This line is used by TFMS to populate specific fields within the FSM Broadcast file. (Also See FADT Specification Section 2.1)

11.12. CUMULATIVE_START_TIME: Cumulative TMI Start Time – dddddddddddd

FSM User Interface Field – GDT Setup; Calculated Based on Prior TMI Cumulative Start Time and "Start"

This is a required keyword that defines the absolute start time of the combined traffic management initiatives that have been issued for this element (e.g., airport or FCA). For example, if a GDP is issued and then later revised, the CUMULATIVE_START_TIME contains the earliest of the EVENT_START_TIMEs issued for that GDP and revisions. If the "Purge Flight Prior to Revision" option is selected, that results in the CUMULATIVE_START_TIME being reset to the EVENT_START_TIME. The value shall be in the format of yyyymmddhhmm. This line is used by TFMS to populate specific fields within the FSM Broadcast file. (Also See FADT Specification Section 2.1)

The cumulative start time is updated based on the following rules;

- AFP/CTOP/GDP-Revisions

   The cumulative start time is updated to the event start time if the new event start time is earlier than the prior cumulative start time. If the new event start time is later than the cumulative start time, the cumulative start time remains unchanged.

- AFP/GDP-Revisions with Purge Flights before Revision Start Time Selected

   The cumulative start time is updated to the event start time, which results in a later cumulative start time.

- AFP/GDP-Compressions

   Compression events never alter the cumulative start time even though the start of the compression may be later than the cumulative start time. The start of the compression is never earlier than the cumulative start time.

- GDP-Blankets

   Blanket events never alter the cumulative start time even though the start of the blanket may be later than the cumulative start time. The start of the blanket is never earlier than the cumulative start time.

- GDP-Ground Stop without a concurrent GDP

   The cumulative start time is always the same as the GS event start time.

- GDP-Ground Stop with a concurrent GDP

   The cumulative start time is the cumulative start of the GDP and is never altered by the GS event start time even though the start of the ground stop may be earlier or later than the cumulative start time.

12.13. CUMULATIVE_END_TIME: Cumulative TMI End Time – dddddddddddd

FSM User Interface Field – GDT Setup; Calculated Based on Prior TMI Cumulative End Time and "End"

This is a required keyword that defines the absolute end time of the combined traffic management initiatives that have been issued for this element (e.g., airport). For example, if a GDP is issued and

then later revised, the CUMULATIVE_END_TIME contains the latest of the EVENT_END_TIMEs issued for that GDP and revisions. If the "Purge Flight after Revision" option is selected, that results in the CUMULATIVE_END_TIME being reset to the EVENT_END_TIME. The value shall be in the format of yyyymmddhhmm. This line is used by TFMS to populate specific fields within the FSM Broadcast file. (Also See FADT Specification Section 2.1)

The cumulative end time is updated based on the following rules;

- AFP/CTOP/GDP-Revisions

  The cumulative end time is updated to the event end time if the new event end time is later then the prior cumulative end time. If the new event end time is earlier then the cumulative end time, the cumulative end time remains unchanged.

- AFP/GDP-Revisions with Purge Flights after Revision End Time Selected

  The cumulative end time is updated to the event end time which results in an earlier cumulative end time.

- AFP/GDP-Compressions

  Compression events never alter the cumulative end time even though the end of the compression may be earlier or later than the cumulative end time.

- GDP-Blankets

  Blanket events never alter the cumulative end time even though the end of the blanket may be earlier or later than the cumulative end time.

- GDP-Ground Stop without a concurrent GDP

  The cumulative end time is always the same as the GS event end time.

- GDP-Ground Stop with a concurrent GDP

  The cumulative end time is the cumulative end of the GDP and is never altered by the GS event end time even though the end of the ground stop may be earlier or later than the cumulative end time

13.14. PURGE_BEFORE_REVISION: Purge Before Revision Time Selection – Y or N

FSM User Interface Field – GDT Setup; Parameters Tab > "Purge Revision Start"

Indicates that the user selected the "Purge Before Revision Time" option when running this program. This results in the Cumulative Start Time being reset to the new Event Start Time and flight prior to the new start time having their control times purged.

14.15. PURGE_AFTER_REVISION: Purge After Revision Time Selection – Y or N

FSM User Interface Field – GDT Setup; Parameters Tab > "Purge Revision End"

Indicates that the user selected the "Purge After Revision Time" option when running this program. This results in the Cumulative End Time being reset to the new Event End Time and flight after the new end time having their control times purged.

15.16. COMPRESS_LAST_CTA: Compress To Last CTA Selection – Y or N

FSM User Interface Field – GDT Setup; Parameters Tab > "Compress to Last CTA"

Indicates that the "Compress to Last CTA" option was selected by the user when issuing this compression.

16.17.AIRCRAFT_TYPE: Include Only Aircraft Category Selected – ALL, Jet_Only, or Prop_Only

FSM User Interface Field – GDT Setup; Parameters Tab > "Aircraft Type"

Aircraft Type defines exclusions (flights that receive no control time) from program or DAS delay. The AIRCRAFT_TYPE keyword is only applicable to GDPs for an airport and is never utilized for AFPs (it always indicates "ALL" for AFPs). Exclusions take precedence over all exemption or non-exemption criteria. For example, if "Props_Only" is specified, FSM and TFMS-Core only assign program and DAS delays to props regardless of what is specified in the various Exemptions or Non-Exemptions keywords. The AIRCRAFT_TYPE keyword allows for the following values: "ALL", "Jet_Only", or "Prop_Only". If "Prop_Only" is specified, FSM and TFMS-Core include both piston and turbo props. Only one type may be specified. (Also See FADT Specification Section 2.3)

   ▪ Number of aircraft types limited by TFMS-Core (one).

17.18.ARRIVAL_FIX: Include Only Arrival Fixes Selected – ALL or LLL[LL] {up to four}

FSM User Interface Field – GDT Setup; Parameters Tab > "Arrival Fix"

Arrival Fix defines exclusions (flights that receive no control time) from program or DAS delay. The ARRIVAL_FIX keyword is only applicable to GDPs for an airport and may not be utilized for AFPs (it indicates "ALL"). Exclusions take precedence over all exemption or non-exemption criteria. For example, if a specific fix is specified, FSM and TFMS-Core only assign program and DAS delays to flights arriving over that fix regardless of what is specified in the various Exemptions or Non-Exemptions keywords. The ARRIVAL_FIX keyword allows for the listing any arrival fix defined in TFMS-Core. A maximum of four fixes may be specified and are listed as multiple space separated values on a single line. (Also See FADT Specification Section 2.3)

   ▪ Number of fixes limited by TFMS-Core (four).

   ▪ Up to 24 characters may be utilized to list the fixes (FSA limitation).

   ▪ Due to operational procedures FSM currently allows users to select ALL or a single fix.

18.19.CARRIER_NAME: Include Only Carrier Selected – ALL or LLL {only one}

FSM User Interface Field – GDT Setup; Parameters Tab > "Carrier (Major)"

Carrier Name defines exclusions (flights that receive no control time) from program or DAS delay. The CARRIER_NAME keyword is only applicable to GDPs for an airport and may not be utilized for AFPs (it indicates "ALL"). Exclusions take precedence over all exemption or non-exemption criteria. For example, if a specific carrier is specified, FSM and TFMS-Core only assign program and DAS delays to that carrier regardless of what is specified in the Exemptions or Non-Exemptions blocks. The CARRIER_NAME keyword allows for listing any NAS User defined as a MAJOR carrier in the TFMS-Core airline definitions file. Any airline that is a subcarrier to that major is also included. Only one airline may be specified. (Also See FADT Specification Section 2.3)

   • Number of carriers limited by TFMS-Core (one).

   • Up to three characters may be utilized to list the carrier (FSA limitation).

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19.20.NOW_PLUS: Exemption Now Plus Time Selected – d[dd]

> FSM User Interface Field – GDT Setup; Scope Tab > Within "N" Minutes

> The Now Plus exemption time as specified by the user. The value indicates the number of minutes from the data time that flights are exempt when the DEP_EXEMPT_TYPE is "By_Time"

20.21.POPUP_FACTOR: Program Pop-up Factor – :dddddddddddd – d[dd]: d[dd] d[dd] d[dd] d[dd] {multiple lines}

> FSM User Interface Field – GDT Setup; Parameters Tab > "Pop-Up" Table

> Indicates the pop-up factor specified by the user. The pop-up factors are the values used to artificially reduce the entered Program Rate to the Effective Program rate during DAS programs. These values are only used internally within the FSM algorithms.

> - :yyyymmddhhmm – hour: inc inc inc inc
>
>   - yyyymmddhhmm - defines the date/time for the hour to which this pop-up factor applies.
>
>   - hour - defines the full hour pop-up factor
>
>   - inc - defines the 15 minute increment pop-up factor

> The pop-up factor data lines are sorted based on the date/time field. Since the POPUP_FACTOR keyword encapsulates multiple lines of data, the content is listed between the actual keyword START_POPUP_FACTOR / END_POPUP_FACTOR. This is in the same format as the RESERVED_RATE keyword.

> The POPUP_FACTOR can include up to 37 hours of data spanning the ADL -1 / +36 hour range.

21.22.RESERVED_RATE: Reserved Rate Pop-Ups – :dddddddddddd – d.d: d.d d.d d.d d.d {multiple lines}

> FSM User Interface Field – GDT Setup; Parameters Tab > "Reserve" Table

> Indicates the reserved rate pop-ups specified by the user for the creation of reserved slots. These values are not necessarily the TFMS-Core provided values (historical pop-up predictions) since the FSM user can modify the selected values as needed. The RESERVED_RATE is used to create pseudo flights for the purpose of reserving a set amount of capacity in a program for future pop-ups. These values are only used internally within the FSM algorithms.

> - :yyyymmddhhmm – hour: inc inc inc inc
>
>   - yyyymmddhhmm - defines the date/time for the hour to which this Pop-up Factor applies.
>
>   - hour - defines the full hour pop-up factor
>
>   - inc - defines the 15 minute increment pop-up factor (i.e. the hourly value distributed across the four 15-minute time bins)

> All hourly and increment values are formatted to the 0.1 decimal value, the actual usage of decimal values is enforced by the FSM user interface. The following rules apply to the actual use of decimal values.

- hour - may only utilize a decimal when the hourly value is less then 10

- inc – may utilize decimal values when ever needed to distribute the hourly value

The reserved rate data lines are sorted based on the date/time field. Since the RESERVED_RATE keyword encapsulates multiple lines of data, the content is listed between the actual keyword START_RESERVED_RATE / END_RESERVED_RATE. This is in the same format as the POPUP_FACTOR keyword.

The RESERVED_RATE can include up to 37 hours of data spanning the ADL -1 / +36 hour range.

22.23.EXEMPT_TYPE: Program Exempt Type – By_Tiers or By_Distance

FSM User Interface Field – GDT Setup; Scope Tab > "Select By"

Specifies if the program defined by the parameters was based on Tier-based criteria or Distance-based criteria.

Note: currently, FSM limits GS and AFP programs to Tier-based criteria only.

23.24.EXEMPT_DISTANCE: Program Exemption Distance – d[ddd]

FSM User Interface Field – GDT Setup; Scope Tab > "Distance"

Specifies an integer distance, in nautical miles, beyond which departing flights are exempt from program and DAS delay. Only one distance may be specified. The distance keyword may only be used when the CTL_ELEM is an airport. (Also See FADT Specification Section 2.4)

24.25.AIRPORT_IF_DISTANCE: Exempt If Distance Airports – :L[LLLLLLLLLLLLLLLLLLL]: Lcc[c] {up to 16}

FSM User Interface Field – GDT Setup; Scope Tab > "Non-Exempt if Distance"

Any valid TFMS-Core airport may be used. A "departure airport only if within distance" non-exemption shall have precedence over a center exemption, but not over a distance exemption. This keyword may only be used when the CTL_ELEM is an airport. (Also See FADT Specification Section 2.5).

- Number of airports limited by TFMS-Core (16).

The value includes a keyword delimited within ":", followed by a maximum of 16 airports which are defined by that keyword. The airports are listed as multiple space separated values on a single line. The keyword may be any of the following;

- Up to 20 Character Keyword – Any FSM Configured Airport Keyword If One Is Permitted For This Program Type

- "ALL" – If FSM Allows an ALL Selection For This Program Type

- "MANUAL" – If either the users has selected manually or if no keyword is permitted.

- Up to 79 characters may be utilized to list the airports (FSA limitation).

An example AIRPORT_IF_DISTANCE line;

```
AIRPORT_IF_DISTANCE :MANUAL: ORD
```

25.26.EXEMPT_CENTER_ORIG: Exempt Origin Centers – :L[LLLLLLLLLLLLLLLLLLL]: LLL {up
to 36}

FSM User Interface Field – GDT Setup; Scope Tab > Centers – Origin > "Exempt"

Specifies complete centers from within which originating (departing) flights are exempt from DAS
delays. A center exemption has precedence over a distance exemption, but not over an airport
exemption. (Also See FADT Specification Section 2.4)

- Number of centers limited by TFMS-Core(36).

The value includes a keyword delimited within ":", followed by a maximum of 36 centers which are
defined by that keyword. The centers are listed as multiple space separated values on a single line.
The keyword may be any of the following;

- Up to 20 Character Keyword – Any FSM Configured Center Keyword If One Is Permitted
  For This Program Type

- "ALL" – If FSM Allows an ALL Selection For This Program Type

- "MANUAL" – If either the users has selected manually or if no keyword is permitted.

- Up to 143 characters may be utilized to list the centers (FSA limitation).

An example EXEMPT_CENTER_ORIG line;

```
EXEMPT_CENTER_ORIG :MANUAL: ZBW
```

26.27.EXEMPT_AIRPORT_ORIG: Exempt Origin Airports – :L[LLLLLLLLLLLLLLLLLLL]: Lcc[c]
{up to 24}

FSM User Interface Field – GDT Setup; Scope Tab > Airports – Origin > "Exempt"

Specifies any valid TFMS-Core airports from which originating (departing) flights are exempt from
DAS delays. An airport exemption has precedence over a center or distance exemption. (Also See
FADT Specification Section 2.4)

- Number of airports limited by TFMS-Core (24).

The value includes a keyword delimited within ":", followed by a maximum of twenty-four airports
which are defined by that keyword. The airports are listed as multiple space separated values on a
single line. The keyword may be any of the following;

- Up to 20 Character Keyword – Any FSM Configured Airport Keyword If One Is Permitted
  For This Program Type

- "ALL" – If FSM Allows an ALL Selection For This Program Type

- "MANUAL" – If either the users has selected manually or if no keyword is permitted.

- Up to 119 characters may be utilized to list the airports (FSA limitation).

An example EXEMPT_AIRPORT_ORIG line;

```
EXEMPT_AIRPORT_ORIG :MANUAL: ORD
```

27.28. EXEMPT_AIRPORT_DEST: Exempt Destination Airports – :L[LLLLLLLLLLLLLLLLLLLL]:
Lcc[c] {up to 24}

FSM User Interface Field – GDT Setup; Scope Tab > Airports – Origin > "Exempt"

Specifies any valid TFMS-Core airports to which destination (arrival) flights are exempt from DAS
delays. An airport exemption has precedence over a center or distance exemption. This keyword may
only be used for AFPs. (Also See FADT Specification Section 2.4)

- Number of airports limited by TFMS-Core(24).

The value includes a keyword delimited within ":", followed by a maximum of twenty-four airports
which are defined by that keyword. The airports are listed as multiple space separated values on a
single line. The keyword may be any of the following;

- Up to 20 Character Keyword – Any FSM Configured Airport Keyword If One Is Permitted
  For This Program Type

- "ALL" – If FSM Allows an ALL Selection For This Program Type

- "MANUAL" – If either the users has selected manually or if no keyword is permitted.

- Up to 119 characters may be utilized to list the airports (FSA limitation).

An example EXEMPT_AIRPORT_DEST line;

```
EXEMPT_AIRPORT_DEST :MANUAL: EWR
```

28.29. EXEMPT_FLIGHT: Exempt Specific Flights – Lc[ccccc] {up to 200 characters}

FSM User Interface Field – GDT Setup; Scope Tab > "Exempt Individual Flights"

Specifies any specific ACIDs entered by the FSM users that are exempt from program delay. A
maximum of twenty four flights may be specified and are listed as multiple space-separated values on
a single line.

- This is an FSA imposed limitation.

- Up to 200 characters may be utilized to list the flights (FSA limitation).

- Note that the maximum number of exempt flights can vary based on distribution of length of
  Flight IDs.

29.30. NONEXEMPT_CENTER_ORIG: Non-Exempt Origin Centers – :L[LLLLLLLLLLLLLLLLLLLL]:
LLL {up to 16}

FSM User Interface Field – GDT Setup; Scope Tab > Center – Origin > "Non-Exempt"

Specifies any complete centers within which departing flights are not exempt from DAS delays. A
center non-exemption has precedence over a distance exemption, but not over an airport exemption.
(Also See FADT Specification Section 2.5)

- Number of centers limited by TFMS-Core(16).

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The value includes a keyword delimited within ":", followed by a maximum of thirty-six centers which are defined by that keyword. The centers are listed as multiple space-separated values on a single line. The keyword may be any of the following;

- Up to 20 Character Keyword – Any FSM Configured Center Keyword If One Is Permitted For This Program Type

- "ALL" – If FSM Allows an ALL Selection For This Program Type

- "MANUAL" – If either the users has selected manually or if no keyword is permitted.

- Up to 63 characters may be utilized to list the centers (FSA limitation).

An example NONEXEMPT_CENTER_ORIG line;

```
NONEXEMPT_CENTER_ORIG :MANUAL: ZNY
```

30.31. NONEXEMPT_AIRPORT_ORIG: Non-Exempt Origin Airports –
:L[LLLLLLLLLLLLLLLLLLLL]: Lcc[c] {up to 16}

FSM User Interface Field – GDT Setup; Scope Tab > Airports – Origin > "Non-Exempt"

Specifies any valid TFMS-Core airports from which originating (departing) flights specifically are not exempt from DAS delays. An airport non-exemption has precedence over a center or distance exemption. (Also See FADT Specification Section 2.5)

- Number of airports limited by TFMS-Core(16).

The value includes a keyword delimited within ":", followed by a maximum of six airports which are defined by that keyword. The airports are listed as multiple space separated values on a single line. The keyword may be any of the following;

- Up to 20 Character Keyword – Any FSM Configured Airport Keyword If One Is Permitted For This Program Type

- "ALL" – If FSM Allows an ALL Selection For This Program Type

- "MANUAL" – If either the users has selected manually or if no keyword is permitted.

- Up to 79 characters may be utilized to list the airports (FSA limitation).

An example NONEXEMPT_AIRPORT_ORIG line;

```
NONEXEMPT_AIRPORT_ORIG :MANUAL: EWR
```

31.32. NONEXEMPT_AIRPORT_DEST: Non-Exempt Destination Airports –
:L[LLLLLLLLLLLLLLLLLLLL]: Lcc[c] {up to 16}

FSM User Interface Field – GDT Setup; Scope Tab > Airports – Dest > "Non-Exempt"

Specifies any valid TFMS-Core airports to which destination (arrival) flights specifically are not exempt from DAS delays. An airport non-exemption has precedence over a center or distance exemption. This keyword may only be used for AFPs. (Also See FADT Specification Section 2.5)

- Number of airports limited by TFMS-Core(16).

The value includes a keyword delimited within ":", followed by a maximum of six airports which are defined by that keyword. The airports are listed as multiple space separated values on a single line. The keyword may be any of the following;

- Up to 20 Character Keyword – Any FSM Configured Airport Keyword If One Is Permitted For This Program Type

- "ALL" – If FSM Allows an ALL Selection For This Program Type

- "MANUAL" – If either the users has selected manually or if no keyword is permitted.

- Up to 79 characters may be utilized to list the airports (FSA limitation).

An example NONEXEMPT_AIRPORT_DEST line;

```
NONEXEMPT_AIRPORT_DEST :MANUAL: EWR
```

32.33. ADJUST_MINUTES: Blanket Adjust Minutes – [-]d[dd]

FSM User Interface Field – GDT Setup; Parameters Tab > "Adjust Delay (Minutes)"

For Blanket Adjustment the number of minutes that are added or subtracted from the currently delay. The value may be positive or negative.

33.34. DELAY_CEILING: Delay Ceiling – d[dd]

FSM User Interface Field – Internal Configuration Item / Not User Setable

The Delay Ceiling (max delay) that is issued as specified by the user. A value of 999 indicates that the delay ceiling is unrestricted. DEPRECATED KEYWORD.

34.35. OPERATION_TYPE: TMI Operation Type – RBS++ or RBS

FSM User Interface Field – GDT Setup; "Program Type"

Indicated the specific algorithm type applied to the TMI. This only applies to GDP and AFP programs.

35.36. COMPRESSION_TYPE: Compression Operation Type – FLIGHTS or SLOTS

FSM User Interface Field – GDT Setup; "Program Type"

Indicated the specific Compression type applied to the TMI. This only applies to the Compression of GDP and AFP programs.

- FLIGHTS – Indicates a compression event which modifies both flights and unassigned slots (if the program being compressed has a delay mode of GAAP or UDP). This type of compression event can be used when the delay mode is DAS, GAAP, or UDP.
- SLOTS – Indicates a compression event which only modifies unassigned slots. This type of compression event can only be used when the delay mode is GAAP or UDP.

36.37. DELAY_MODE: Pop-up Mode Selected – DAS, GAAP, or UDP

FSM User Interface Field – GDT Setup; "Program Type"

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This is a required keyword that defines the delay assignment algorithm which should be used by the TFMS-Core for processing pop-up flights. The only valid values are DAS, GAAP, UDP, and CTOP. (Also See FADT Specification Section 2.1)

37. 38. DELAY_LIMIT: Pop-up Delay Limit – d[dd]

FSM User Interface Field – GDT Setup; Parameters Tab > "Delay Limit (Minutes)"

This is an optional keyword required when the DELAY_MODE is GAAP, UDP or CTOP. It shall not be listed for any other program type. The keyword defines the maximum number of additional minutes of delay that can be added to Pop-Up flights during GAAP or UDP GDPs, or CTOPs. (Also See FADT Specification Section 2.1)

38. 39. DELAY_MULTIPLIER: Delay Multiplier – d.d

FSM User Interface Field – GDT Setup; Parameters Tab > "Target Delay (Multiplier)"

Indicates the delay multiplier which is applied to the average delay to get the target delay for UDP based TMIs. This is an optional keyword required when the DELAY_MODE is UDP or GAAP. It shall not be listed for any other program type. The value is a number from 1.0 to 9.9 in the format of N.N, negative values are not allowed. When listed for a DELAY_MODE of GAAP the multiplier is always 1.0.

39. 40. EARLIEST_SLOT: Earliest Reserved Slot – d[dd]

FSM User Interface Field – GDT Setup; Parameters Tab > "Earliest R-Slot"

Indicates the number of minutes added to the Event Start Time to determine the earliest point in time that any reserved slots are created. The value is a number from 0 to 999 in the format of ddd. Only listed if the delay mode is UDP.

40. 41. OVERRIDE_CARRIER: Slot Hold Overrides Selected – LLL {multiple space separated values}

FSM User Interface Field – GDT Setup; Parameters Tab > "Slot Hold Override"

Indicates the specific carriers whose slot holds the user has selected to override. An unlimited number of carriers may be specified and are listed as multiple space-separated values on a single line.

41. 42. OVERRIDE_AFP: Override AFP Selection – N or Y

FSM User Interface Field – GDT Setup; Parameters Tab > "AFP Override"

Indicates whether this is an override AFP that assumes control of flights from other AFPs. This line is used by TFMS to establish AFP priority for pop-up and re-control flights.

42. 43. EXEMPT_AFP: Exempt AFP Selection – FCAccc {up to twenty four}

FSM User Interface Field – GDT Setup; Parameters Tab > "Exempt AFP"

Indicates flights from which AFPs from being shifted to GDP control are exempt from additional delay within a GDP. For example if FCAA01 is indicated any flight controlled by that AFP which is being shifted to a GDP is exempt.

- Number of AFPs limited by FSA (24).

- ▪ Up to 167 characters may be utilized to list the AFPs (FSA limitation).

44. EXEMPT_CTOP: Exempt CTOP Selection – CTPccc {up to twenty four}

    FSM User Interface Field – GDT Setup; Parameters Tab > "Exempt CTOP"

    Indicates flights from which CTOPs from being shifted to GDP control are exempt from additional delay within a GDP. For example, if CTP001 is indicated, any flight controlled by any FCA that is part of that CTOP which is being shifted to a GDP is exempt.

    - ▪ Number of CTOPs limited by FSA (24).

    - ▪ Up to 167 characters may be utilized to list the CTOPs (FSA limitation).

43.45 PROGRAM_RATE: Program Modeling / Issuance Rate – :dddddddddddd – d[dd]: d[dd] d[dd] d[dd] d[dd] {multiple lines}

    FSM User Interface Field – GDT Setup; Parameters Tab > "PR" Table

    The Program Rate (PR) used for modeling or issuing of the TMI. The Program Rate is formatted as a block of values with the first line being "START_PR", the last line being "END_PR", and the actual PR data being listed as up to 37 lines of hourly data between the start and end lines. Each Program Rate data line listed is in the format of;

    - ▪ :yyyymmddhhmm – hour: inc inc inc inc

        - • yyyymmddhhmm - defines the date/time for the hour to which this Program Rate applies.

        - • hour - defines the full hour PR

        - • inc - defines the 15 minute increment PR

    The PROGRAM_RATE data lines are sorted based on the date/time field. Since the PROGRAM_RATE keyword encapsulates multiple lines of data, the content is listed between the actual keywords START_PROGRAM_RATE / END_PROGRAM_RATE.

    The PROGRAM_RATE can include up to 37 hours of data spanning the ADL -1 / +36 hour range.

    Note – The Actual Airport or FCA AAR is contained in the ADL AAR Block and not within the program parameters block.

44.46. SET_AAR: Set AAR Indicator – PR or ADL

    FSM User Interface Field – GDT Setup; Parameters Tab > "AAR" Options

    Indicates which Set AAR option was selected for this TMI.

    - ▪ PR – Indicates the "Set AAR to Program Rate" option was selected, in which case the PR was utilized to set the AAR.

    - ▪ ADL – Indicates the "Retain Current ADL AAR" option was selected, in which case the ADL AAR was retained.

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This indicator is only provided for AFP/GDP events since BKT, COMP, and GS have no associated PR, thus the AAR is always retained for those events.

45.47. DEP_EXEMPT_TYPE: Departure Exemption Type Indicator – By_Status or By_Time

FSM User Interface Field – GDT Setup; Scope Tab > "Flights" Options

Indicates the departure exemption type that is applied to all flights.

46.48. CHARGE_TO: Charge To Facility Information – type Lcc[c]

FSM User Interface Field – Coversheet; "ID"

Indicates the category and identifier of facility to which the delay is charged.

- Type can indicate "Airport", "Terminal", or "Center". The field is used to categorize the type of facility indicated.

- Facility can be a valid airport, center, or terminal identifier. International facilities are valid.

An example CHARGE_TO for an airport;

```
CHARGE_TO Airport BOS
```

An example CHARGE_TO for a terminal;

```
CHARGE_TO Terminal N90
```

An example CHARGE_TO for a center;

```
CHARGE_TO Center ZDC
```

47.49. CHARGE_TO_NONFAA: Charge To NON-FAA – Y or N

FSM User Interface Field – Coversheet; "Not Charged To FAA"

Indicates if this TMI should be charged to the FAA. The keyword is always listed but only contains a value other than "N" when the TMI makes use of the "include only" carrier option.

- Y indicates that this is a NON-FAA TMI (i.e. a carrier specific program requested by a NAS User).

- N indicates this is a normal TMI and fully chargeable to the FAA.

NOTE – This keyword is not intended to represent whether the TMI is chargeable based the on the TMI being issued for a non US facility, it only represents that the TMI was NAS user requested.

48.50. IC_CODE: Impacting Condition Opsnet Code – dddd

FSM User Interface Field – Coversheet; Lookup Based on "Cause"

Indicates the Opsnet numerical code for the Impacting Condition selected.

49.51. IC_TEXT: Impacting Condition Opsnet Text – L[…up to 100 characters…]

FSM User Interface Field – Coversheet; "Category" & "Cause"

Indicates the standard Opsnet text for the Impacting Condition selected.

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50.52.IC_CATEGORY: Impacting Condition FSM Category – L[…up to 100 characters…]

FSM User Interface Field – Coversheet; "Category"

For the Impacting Condition selected, this field displays the FSM text that breaks out the Category imbedded in the Opsnet Impacting Condition text. The FSM text is intended to allow population of multiple drop-down dialogs and easier categorization / analysis of the Impacting Condition.

51.53.IC_CAUSE: Impacting Condition FSM Cause – L[…up to 100 characters…]

FSM User Interface Field – Coversheet; "Cause"

For the Impacting Condition selected, this field displays the FSM text that breaks out the Cause imbedded in the Opsnet Impacting Condition text. The FSM text is intended to allow population of multiple drop-down dialogs and easier categorization / analysis of the Impacting Condition.

52.54.IC_EQUIPMENT: Equipment Quantifiers – :FAA: Y or N :SCHEDULED: Y or N

FSM User Interface Field – Coversheet; "Equipment"

Provides additional information needed when an Impacting Condition of equipment is selected. This keyword is only listed when the Impacting Condition selected is equipment related.

- FAA indicates whether the equipment is FAA Equipment (Y) or Non-FAA Equipment (N)

- SCHEDULED indicates whether the equipment outage is Scheduled (Y) or Non-Scheduled (N)

53.55. TOTAL_FLIGHTS: Total Flights In The TMI – d[dddd]

FSM User Interface Field – N/A; Calculated Value

Total flights captured by the TMI defined by the parameters.

54.56.AFFECTED_FLIGHTS: Affected Flights In The TMI – d[dddd]

FSM User Interface Field – N/A; Calculated Value

Total flights affected by the TMI defined by the parameters.

55.57.STACK_VALUE: Number of Flights In Program Stack – d[ddd]

FSM User Interface Field – N/A; Calculated Value

Total flights pushed into the stack (pushed past the program end time) by the TMI defined by the parameters.

56.58.TOTAL_DELAY_BEFORE: Total Delay Before TMI Modeling – d[dddddd]

FSM User Interface Field – N/A; Calculated Value

Total program delay before the program defined by the parameters was issued.

57.59. TOTAL_DELAY_AFTER: Total Delay After TMI Modeling – d[dddddd]

FSM User Interface Field – N/A; Calculated Value

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Total program delay after the program defined by the parameters was issued.

58.60.TOTAL_DELAY_DIFFERENCE: Total Delay Difference Before to After TMI Modeling – [-]d[dddddd]

FSM User Interface Field – N/A; Calculated Value

The difference in the total delay before and after issuance of the program defined by the parameters. The value may be positive or negative.

59.61.MAX_DELAY_BEFORE: Maximum Delay Before TMI Modeling – d[dddddd]

FSM User Interface Field – N/A; Calculated Value

The single flight maximum program delay before the program defined by the parameters was issued.

60.62.MAX_DELAY_AFTER: Maximum Delay After TMI Modeling – d[dddddd]

FSM User Interface Field – N/A; Calculated Value

The single flight maximum program delay after the program defined by the parameters was issued.

61.63.MAX_DELAY_DIFFERENCE: Maximum Delay Difference Before to After TMI Modeling – [-]d[dddddd]

FSM User Interface Field – N/A; Calculated Value

The difference in single flight maximum program delay before and after issuance of the program defined by the parameters. The value may be positive or negative.

62.64.AVG_DELAY_BEFORE: Average Delay Before TMI Modeling – d[ddd].d

FSM User Interface Field – N/A; Calculated Value

Average program delay before the program defined by the parameters was issued.

63.65.AVG_DELAY_AFTER: Average After Before TMI Modeling – d[ddd].d

FSM User Interface Field – N/A; Calculated Value

Average program delay after the program defined by the parameters was issued.

64.66.AVG_DELAY_DIFFERENCE: Average Delay Difference Before to After TMI Modeling – [-]d[ddd].d

FSM User Interface Field – N/A; Calculated Value

The difference in the average delay before and after issuance of the program defined by the parameters. The value may be positive or negative.

65.67.MIN_DELAY_BEFORE: Minimum Delay Before TMI Modeling – d[dddddd]

FSM User Interface Field – N/A; Calculated Value

The single flight minimum program delay before the program defined by the parameters was issued.

66.68.MIN_DELAY_AFTER: Minimum Delay After TMI Modeling – d[dddddd]

FSM User Interface Field – N/A; Calculated Value

The single flight minimum program delay after the program defined by the parameters was issued.

67.69. MIN_DELAY_DIFFERENCE: Minimum Delay Difference Before to After TMI Modeling – [-]d[dddddd]

FSM User Interface Field – N/A; Calculated Value

The difference in single flight minimum program delay before and after issuance of the program defined by the parameters. The value may be positive or negative.

3. Arrival / Departure Rate Blocks

3.1. AAR

The AAR block is required for all ADLs. It contains at least one line showing the default value for the airport or FEA/FCA arrival rate. For an FEA/FCA the default value is always "0". It may also contain an additional line showing values that an Authorized FAA User has entered through an AAR update.

A sample AAR block with only a default AAR follows:

```
START_AAR
 DEFAULT 60
END_AAR
```

When applying this block an AAR of 60 applies to all hours. If a 15 minute AAR is needed, the hourly AAR should be evenly distributed across the 15 minute time bins with any remainder first being included in the 1st, then 3rd and finally the 2nd time bin.

A sample AAR block with both a default and specified AAR:

```
START_AAR
 DEFAULT 60
 AAR_TIME 161500 IDX 9 AAR-15 11 11 11 10 10 9 9 9 10 9 9 9 10 9 9 9 …
END_AAR
```

.... in the above examples indicates the sequence continues to cover the appropriate ADL time interval.

When applying this block the AAR specified by the AAR_TIME line should first be derived. The AAR_TIME value is the date/time of the first 15 minute period (16th at 1500 in this example) to which the first AAR should be applied. The remaining AARs are for the subsequent 15 minute periods. This line results in an AAR of;

- 16th / 1500 Hour   15 Minutes AARs of 11, 11,11 and 10; Totaling an Hourly AAR of 43

- 16th / 1600 Hour   15 Minutes AARs of 10, 9, 9 and 9; Totaling an Hourly AAR of 37

- 16th / 1700 Hour   15 Minutes AARs of 10, 9, 9 and 9; Totaling an Hourly AAR of 37

- 16th / 1800 Hour   15 Minutes AARs of 10, 9, 9 and 9; Totaling an Hourly AAR of 37

After deriving the AAR from the specific time period defined by the AAR_TIME, the default AAR is then applied to fill out the AAR for all remaining hourly and 15 minute increments. The IDX 9 value can be ignored by external applications, this is a internal time index used by the FSM application

For an airport the AAR can include up to 37 hours of data spanning the ADL -1 / +36 hour range. For an FEA/FCA the time range will depend on the specific time range for which the FEA/FCA was created.

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3.2. ADR

The ADR block is required for an airport ADL, but never appears in an FEA/FCA ADL. It contains at least one line showing the default value, as an hourly ADR. It may also contain an additional line showing values that an Authorized FAA User has entered through an ADR update.

A sample ADR block with only a default ADR follows:

```
START_ADR
 DEFAULT 59
END_ADR
```

When applying this block an ADR of 59 applies to all hours. If a 15 minute ADR is needed, the hourly ADR should be evenly distributed across the 15 minute time bins with any remainder first being included in the 1st, then 3rd and finally the 2nd time bin...

A sample ADR block with both a default and specified ADR:

```
START_ADR
 DEFAULT 59
 ADR_TIME 190800 IDX 3 ADR-15 11 11 11 10 10 9 9 9 10 9 9 9 10 9 9 9 …
END_ADR
```

.... in the above examples indicates the sequence continues to cover the appropriate ADL time interval.

When applying this block the ADR specified by the ADR_TIME line should first be derived. The ADR_TIME value is the date/time of the first 15 minute period (16th at 1500 in this example) to which the first ADR should be applied. The remaining ADRs are for the subsequent 15 minute periods. This line results in an ADR of;

19th / 0800 Hour	15 Minutes ADRs of 11, 11,11 and 10; Totaling an Hourly ADR of 43
19th / 0900 Hour	15 Minutes ADRs of 10, 9, 9 and 9; Totaling an Hourly ADR of 37
19th / 1000 Hour	15 Minutes ADRs of 10, 9, 9 and 9; Totaling an Hourly ADAR of 37
19th / 1100 Hour	15 Minutes ADRs of 10, 9, 9 and 9; Totaling an Hourly ADR of 37

After deriving the ADR from the specific time period defined by the ADR_TIME, the default ADR is then applied to fill out the ADR for all remaining hourly and 15 minute increments. The IDX 9 value can be ignored by external applications, this is a internal time index used by the FSM application

For an airport the ADR can include up to 37 hours of data spanning the ADL -1 / +36 hour range.

References

The following documents are useful in understanding the contents of this document.

1. *Aggregate Demand List (ADL) File Specification - Version 13.1*
   (http://cdm.fly.faa.gov).

2. *FADT File Specification – Version 4.3*
   (http://cdm.fly.faa.gov).