

NOTICE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Air Traffic Organization Policy

N JO 7110.499

Effective Date:
February 1, 2009

Cancellation Date:
January 31, 2010

SUBJ: En Route Automation Modernization (ERAM)

- 1. Purpose of This Notice.** This notice transmits editorial and content changes to air traffic procedural guidance in FAA Order (FAAO) JO 7110.65, Air Traffic Control related to the waterfall implementation and use of En Route Automation Modernization (ERAM). The guidance contained in this notice supersedes the applicable provisions of FAAO 7110.65 whenever a facility uses ERAM for operational air traffic control services. Facilities shall revert to the current provisions of FAAO 7110.65 during those periods that ERAM is not used operationally for air traffic control services.
- 2. Audience.** This notice is intended for all air traffic personnel at facilities that use ERAM for operational air traffic control services.
- 3. Where Can I Find This Notice?** The notice is available on the MYFAA employee Web site at https://employees.faa.gov/tools_resources/orders_notices/ and on the air traffic publications Web site at http://www.faa.gov/airports_airtraffic/air_traffic/publications.
- 4. Explanation of Policy Change.** Whenever ERAM is used operationally for air traffic control services, the applicable provisions of FAAO 7110.65, Air Traffic Control, are superseded by the corresponding provisions contained in this notice. Applicable paragraphs contain changes that are both editorial and content in nature. Changes are considered editorial in nature if the only change involves the replacement of a reference to a Host legacy system with its ERAM equivalent with no other change to functions, requirements, or responsibilities. Examples are the replacement of the term "Host," or "NAS Stage A" with "ERAM" or the replacement of the term "URET" with "EDST" or "URET/EDST." Changes are considered content in nature if the changes involve a change to a function, requirement, or responsibility. See Appendix A, ERAM Changes to FAA Order 7110.65.
- 5. Action.** Air traffic managers shall ensure that the provisions of this notice are briefed to operations managers, front-line managers, controllers-in-charge and air traffic controllers prior to the first use of ERAM for operational air traffic control services.
- 6. Distribution.** This notice is distributed to Air Traffic Organization (ATO) En Route Safety and Operations Support, Mike Monroney Aeronautical Center, En Route and Oceanic Operations Service Areas, and all Air Route Traffic Control Centers (ARTCCs), except Anchorage ARTCC.
- 7. Background.** Beginning on or about February 2009, the operational use of ERAM for air traffic control services will be implemented at all ARTCCs in the contiguous United States in accordance with a waterfall schedule. The transition from the Host automation system to ERAM is expected to be completed within approximately 18 months. During that transition period, the provisions of this notice will apply only during those times that a facility is using ERAM for operational air traffic control services. For those facilities that have not yet transitioned to ERAM, or for those ERAM facilities that

for any reason, are not using ERAM operationally for air traffic control services, the existing provisions of FAAO 7110.65 shall apply. When all Host facilities have transitioned permanently to ERAM, the provisions of this notice shall be incorporated into a future change to FAAO 7110.65.

8. Safety Management System. Appropriate safety management documentation, in accordance with FAAO 1100.161, Air Traffic Safety Oversight, ATO Order 1000.37, Air Traffic Organization Safety Management System, and the ATO Safety Management System Manual, has been completed in support of this notice.


Luis A. Ramirez
Director of En Route and Oceanic
Safety and Operations Support
Air Traffic Organization


Date Signed

APPENDIX A. ERAM Changes to FAA Order 7110.65

<u>HOST</u>	
1-2-6. ABBREVIATIONS	
As used in this manual, the following abbreviations have the meanings indicated. (See TBL 1-2-1.)	
New	

<u>ERAM</u>	
1-2-6. ABBREVIATIONS	
As used in this manual, the following abbreviations have the meanings indicated. (See TBL 1-2-1.)	
<u>ADB.....Alternate Data Block</u>	
<u>ELDB....Enhanced Limited Data Block</u>	
<u>EDST. ..En Route Decision Support Tools</u>	
<u>ERAM ...En Route Automation Modernization</u>	
<u>FDB.....Full Data Block</u>	

No further changes to section

<u>HOST</u>	
2-1-6. SAFETY ALERT	
Issue a safety alert to an aircraft if you are aware the aircraft is in a position/altitude which, in your judgment, places it in unsafe proximity to terrain, obstructions, or other aircraft. Once the pilot informs you action is being taken to resolve the situation, you may discontinue the issuance of further alerts. Do not assume that because someone else has responsibility for the aircraft that the unsafe situation has been observed and the safety alert issued; inform the appropriate controller.	
New	
<i>NOTE-</i>	
<i>1. The issuance of a safety alert is a first priority (see para 2-1-2, Duty Priority) once the controller observes and recognizes a situation of unsafe aircraft proximity to terrain, obstacles, or other aircraft. Conditions, such as workload, traffic volume, the quality/limitations of the radar system, and the available lead time to react are factors in determining whether it is reasonable for the controller to observe and recognize such situations. While a controller cannot see immediately the development of every situation where a safety alert must be issued, the controller must remain vigilant for such situations and issue a safety alert when the situation is recognized.</i>	
<i>2. Recognition of situations of unsafe proximity may result from MSAW/E-MSAW/LAAS, automatic altitude readouts, Conflict/Mode C Intruder Alert, observations on</i>	

<u>ERAM</u>	
2-1-6. SAFETY ALERT	
Issue a safety alert to an aircraft if you are aware the aircraft is in a position/altitude which, in your judgment, places it in unsafe proximity to terrain, obstructions, or other aircraft. Once the pilot informs you action is being taken to resolve the situation, you may discontinue the issuance of further alerts. Do not assume that because someone else has responsibility for the aircraft that the unsafe situation has been observed and the safety alert issued; inform the appropriate controller.	
<u>EN ROUTE. ERAM: For alerts external to your facility, informing the appropriate controller is only required if the sector is adjacent to yours.</u>	
No Change	
No Change	

a PAR scope, or pilot reports.

New

3. Once the alert is issued, it is solely the pilot's prerogative to determine what course of action, if any, will be taken.

3. **EN ROUTE.** In ERAM, AOI creates the potential for controllers to see alerts in distant external sectors with which they do not communicate. Requiring communications with a distant external sector for the sole purpose of responding to these alerts would detract from the safety intent of this paragraph.

4. Once the alert is issued, it is solely the pilot's prerogative to determine what course of action, if any, will be taken

No further changes to section

HOST

2-6-2. HAZARDOUS INFLIGHT WEATHER ADVISORY SERVICE (HIWAS)

Title thru c

New

New

ERAM

2-6-2. HAZARDOUS INFLIGHT WEATHER ADVISORY SERVICE (HIWAS)

No Change

d. **EN ROUTE. ERAM.** Controllers shall electronically acknowledge hazardous weather information messages after appropriate action has been taken.

NOTE-
EN ROUTE. While hazardous weather information is commonly distributed via the SIGMET View, it is possible to receive the information via the GI View.

No further changes to section

HOST

2-10-1. EN ROUTE SECTOR TEAM POSITION RESPONSIBILITIES

Title thru c1(f)

(g) Scan radar display. Correlate with flight progress strip information or User Request Evaluation Tool (URET) data, as applicable.

c1(h)

(i) Ensure strip marking and/or URET entries are completed on instructions or clearances you issue or receive.

c1(j) thru c1(k)

New

ERAM

2-10-1. EN ROUTE SECTOR TEAM POSITION RESPONSIBILITIES

No Change

(g) Scan radar display. Correlate with flight progress strip information URET/EDST data, as applicable.

No Change

(i) Ensure strip marking and/or **electronic flight data** entries are completed on instructions or clearances you issue or receive.

No Change

(l) **At ERAM facilities, ensure the situation display accurately reflects the status of all SAAs that impact their area of control responsibility.**

2. *Radar Associate Position:*

(a)

(b) At URET facilities, use URET information to plan, organize, and expedite the flow of traffic.

c2(c) thru c2(h)

(i) Scan flight progress strips and/or URET data. Correlate with radar data.

(j) Manage flight progress strips and/or URET flight data.

c2(k)

(l) As appropriate, ensure strip marking and/or URET entries are completed on instructions issued or received, and record instructions issued or received by the radar position when aware of them.

c2(m)

(n) Where authorized, perform URET data entries to keep the activation status of designated URET Airspace Configuration Elements current.

New

c3(a) thru c3(d)

4. *Radar Flight Data:*

c4(a) thru c4(c)

(d) Ensure flight data processing equipment is operational, except for URET capabilities.

2. *Radar Associate Position:*

No Change

(b) **Where available**, use URET/**EDST** to plan, organize, and expedite the flow of traffic.

No Change

(i) Scan flight progress strips and/or URET/**EDST** data. Correlate with radar data.

(j) Manage flight progress strips and/or **electronic** flight data.

No Change

(l) As appropriate, ensure strip marking and/or URET/**EDST** data entries are completed on instructions issued or received, and record instructions issued or received by the radar position when aware of them.

No Change

(n) Where authorized, perform URET/**EDST** data entries to keep the activation status of designated Airspace Configuration Elements current.

(o) At ERAM facilities, scan the radar associate display for electronically distributed information, evaluate the information, and take action as appropriate.

No Change

4. *Radar Flight Data:*

No Change

(d) Ensure flight data processing equipment is operational, except for **URET/EDST** capabilities.

No further changes to section

HOST

4-5-3. EXCEPTIONS

a. For traffic conditions, take this action only if one of the following conditions exists:

1. Aircraft remain within a facility's area and prior approval is obtained from other affected positions or sectors or the operations are covered in a Facility Directive.
2. Aircraft will proceed beyond the facility's area and specific operations and procedures permitting

ERAM

4-5-3. EXCEPTIONS

a. For traffic conditions, take this action only if one of the following conditions exists:

1. Aircraft remain within a facility's area and prior approval is obtained from other affected positions or sectors or the operations are covered in a Facility Directive.
2. Aircraft will proceed beyond the facility's area and specific operations and procedures permitting

random altitude assignment are covered in a letter of agreement between the appropriate facilities.

NOTE-

Those en route facilities using host software that provides capability for passing interim altitude shall include the specific operations and procedures for use of this procedure in a letter of agreement between the appropriate facilities.

random altitude assignment are covered in a letter of agreement between the appropriate facilities.

Delete

No further changes to section

HOST

4-6-3. DELAYS

a. Advise your supervisor or flow controller as soon as possible when you delay or expect to delay aircraft.

New

ERAM

4-6-3. DELAYS

a. Advise your supervisor or flow controller as soon as possible when you delay or expect to delay aircraft.

REFERENCE-

FAA07110.65, Para 5-14-9, ERAM Computer Entry of Hold Information

No further changes to section

HOST

5-1-6. SERVICE LIMITATIONS

a. When radar mapping is not available, limit radar services to:

a1 thru a3

b. *EN ROUTE*. When the position symbol associated with the full data block falls more than one history behind the actual aircraft target or there is no target symbol displayed, the Mode C information in the full data block shall not be used for the purpose of determining separation.

ERAM

5-1-6. SERVICE LIMITATIONS

a. When radar mapping is not available, limit radar services to:

No Change

b. *EN ROUTE*. When the position symbol associated with the data block falls more than one history behind the actual aircraft target or there is no target symbol displayed, the Mode C information in the data block shall not be used for the purpose of determining separation.

No further changes to section

HOST

5-2-2. DISCRETE ENVIRONMENT

a. Issue discrete beacon codes assigned by the computer. Computer-assigned codes may be modified as required.

a1 thru a2

NOTE-

1. This will provide the adjacent facility advance information on the aircraft and will cause autoacquisition of the aircraft prior to handoff.

2. When an IFR aircraft, or a VFR aircraft that has been

ERAM

5-2-2. DISCRETE ENVIRONMENT

a. Issue discrete beacon codes assigned by the computer. Computer-assigned codes may be modified as required.

No Change

No Change

assigned a beacon code by the host computer and whose flight plan will terminate in another facility's area, cancels ATC service or does not activate the flight plan, send a remove strips (RS) message on that aircraft via host keyboard, the FDIO keyboard, or call via service F.

2. When an IFR aircraft, or a VFR aircraft that has been assigned a beacon code by the ARTCC computer and whose flight plan will terminate in another facility's area, cancels ATC service or does not activate the flight plan, ensure that appropriate action is taken to remove strips (RS message) on that aircraft.

No further changes to paragraph

HOST

5-2-17. VALIDATION OF MODE C READOUT

Ensure that Mode C altitude readouts are valid after accepting an interfacility handoff, initial track start, track start from coast/suspend tabular list, missing, or unreasonable Mode C readouts. For TPX-42 and equivalent systems ensure that altitude readout is valid immediately after identification. (TCDD-/BANS-equipped tower cabs are not required to validate Mode_C readouts after receiving interfacility handoffs from TRACONS according to the procedures in para 5-4-3, Methods, subpara a4.)

New

ERAM

5-2-17. VALIDATION OF MODE C READOUT

No Change

NOTE-
EN ROUTE. A previously validated Mode C may be used for separation when the exceptional vertical rate indicator (an "X" appended to the Mode C readout) is displayed.

No further changes to section

HOST

5-3-3. BEACON IDENTIFICATION METHODS

Title thru c

d. *EN ROUTE.* During narrowband operations, an aircraft may be considered identified when the full data block is automatically associated with the beacon target symbol of an aircraft that is squawking a discrete code assigned by the computer.

ERAM

5-3-3. BEACON IDENTIFICATION METHODS

No Change

d. *EN ROUTE.* An aircraft may be considered identified when the full data block is automatically associated with the beacon target symbol of an aircraft that is squawking a discrete code assigned by the computer.

No further changes to paragraph

HOST

5-3-8. TARGET MARKERS

EN ROUTE

Retain data blocks that are associated with the appropriate target symbol in order to maintain continuous identity of aircraft. Retain the data block until the aircraft has exited the sector or delegated airspace, and all potential conflicts have been resolved; including an aircraft that is a point out. The data block shall display flight identification and

ERAM

5-3-8. TARGET MARKERS

EN ROUTE

No Change

altitude information, as a minimum. The displayed altitude may be assigned, interim, or reported.

New

New

ERAM: When you have separation responsibility for an aircraft and a paired track exists, display a full data block (FDB) or an alternate data block (ADB). An enhanced limited data block (ELDB) may be displayed for aircraft in holding when specified in a facility directive.

**REFERENCE-
FAAO 7210.3, ERAM Hold Information Facility Directive
Requirements, Para 8-2-9.**

No further changes to section

HOST

5-4-3. METHODS

a1 thru a2

- 3. Use automation capabilities.

NOTE-

EN ROUTE. Interfacility handoff capabilities are available that can be manually initiated and accepted when operating on the backup RDP while FDP is available. The backup RDP by itself does not have the capabilities for interfacility handoffs. Therefore, handoffs between facilities must be made via landline voice communications when operating with the backup RDP only.

a4 thru b2

- 3. The assigned altitude, appropriate restrictions, and information that the aircraft is climbing or descending, if applicable, except when inter/intrafacility directives ensure that the altitude information will be known by the receiving controller.

NOTE-

- 1. When physically pointing to the target, you do not have to state the aircraft position.
- 2. *Those en route facilities using host software that provides capability for passing interim altitude shall include the specific operations and procedures for use of this procedure in a LOA between the appropriate facilities.*

No further changes to paragraph

ERAM

5-4-3. METHODS

No Change

No Change

NOTE-

*EN ROUTE. **ERAM:** Interfacility handoff capabilities are available for Host facilities that can be manually initiated and accepted when operating on the backup RDP while FDP is available. The Host backup RDP by itself does not have the capabilities for interfacility handoffs. Therefore, handoffs to Host facilities must be made via landline voice communications when that Host facility is operating with the backup RDP only.*

No Change

- 3. The assigned altitude, appropriate restrictions, and information that the aircraft is climbing or descending, if applicable, except when inter/intrafacility directives ensure that the altitude information will be known by the receiving controller.

NOTE-

When physically pointing to the target, you do not have to state the aircraft position.

Delete

HOST

5-4-4. TRAFFIC

- a. When using the term “traffic” for coordinating separation, the controller issuing traffic shall issue

ERAM

5-4-4. TRAFFIC

No Change

appropriate restrictions.

New

New

EN ROUTE. Between ERAM facilities: force the data block on the other controller's display.

NOTE- EN ROUTE. ERAM. Forcing the data block ensures UTM service for that aircraft.

No further changes to paragraph

HOST

5-4-5. TRANSFERRING CONTROLLER HANDOFF

Title thru a

b. Verbally obtain the receiving controller's approval prior to making any changes to an aircraft's flight path, altitude, or data block information while the handoff is being initiated or after acceptance, unless otherwise specified by a LOA or a facility directive.

NOTE-
Those en route facilities using host software that provides capability for passing interim altitude shall include the specific operations and procedures for use of this procedure in a LOA between the appropriate facilities.

New

c thru h

i. Initiate verbal coordination to verify the position of primary or nondiscrete targets when using the automated handoff functions except for intrafacility handoffs using single-sensor systems or multisensor systems operating in a mosaic RDP mode.

ERAM

5-4-5. TRANSFERRING CONTROLLER HANDOFF

No Change

No Change

NOTE-
EN ROUTE. For both intra- and inter-facility handoffs from ERAM sector to ERAM sector, transferring controller updates to the data block are displayed to the receiving controller.

REFERENCE-
FAAO 7210.3, Requirements for ERAM Data Block Changes Without Coordination, Para 8-2-8.

No Change

i. Initiate verbal coordination to verify the position of primary or nondiscrete targets when using the automated handoff functions except for intrafacility handoffs using single-sensor systems or multisensor systems operating in a mosaic RDP mode, **or handoffs between ERAM sectors.**

No further changes to paragraph

HOST

5-4-6. RECEIVING CONTROLLER HANDOFF

Title thru c

d. Before you issue control instructions directly to an aircraft that is within another controller's area of jurisdiction that will change that aircraft's heading, route, speed, altitude, or beacon code, ensure that coordination has been accomplished with each of the

ERAM

5-4-6. RECEIVING CONTROLLER HANDOFF

No Change

No Change

controllers listed below whose area of jurisdiction is affected by those instructions unless otherwise specified by a LOA or a facility directive:

NOTE-

Those en route facilities using host software that provides capability for passing interim altitude shall include the specific operations and procedures for use of this procedure in a LOA between the appropriate facilities.

d1 thru f

g. Initiate verbal coordination prior to accepting control of a track when “CST,” “NAT,” “NT,” “NONE,” “NB,” “NX,” “OLD,” “OL,” “AMB,” “AM,” or “TU” is displayed in the data block.

1. When an automated interfacility handoff action is initiated and “AMB” or “AM” is displayed in the full data block, advise the other facility that a disparity exists between the position declared by their computer and that declared by your CARTS/PIDP/STARS system.

2. When an automated interfacility handoff action is initiated and “NAT,” “NT,” or “TU” is displayed in the full data block, advise the other facility if a disparity exists between the position declared by their computer and the actual target position.

New

h. Advise the transferring controller, prior to accepting the transfer of radar identification, that you will delay the climb or the descent of an aircraft through the vertical limits of the transferring controller’s area of jurisdiction, unless otherwise specified in a LOA or a facility directive.

NOTE-

Those en route facilities using HOST software that provides capability for passing interim altitude shall include the specific operations and procedures for use of this procedure in a LOA between the appropriate facilities.

i. If you decide, *after* accepting the transfer of radar identification, to delay the aircraft’s climb or descent through the vertical limits of the transferring controller’s area of jurisdiction, advise the transferring controller of that decision as soon as possible. *You* now have the responsibility to ensure that the necessary coordination is accomplished with any intervening controller(s) whose area of

Delete

No Change

g. **Take the identified action prior to accepting control of a track when the following indicators are displayed in the data block:**

1. **“AMB” and “AM”:** advise the other facility that a disparity exists between the position declared by their computer and that declared by your CARTS/PIDP/STARS system.

2. **“NAT”, “NT,” or “TU”:** advise the other facility if a disparity exists between the position declared by their computer and the actual target position.

3. **“MISM”, “CST”, “NONE”, “NX”, “OLD”, or “OL”:** initiate verbal coordination.

h. Advise the transferring controller, prior to accepting the transfer of radar identification, that you will delay the climb or the descent of an aircraft through the vertical limits of the transferring controller’s area of jurisdiction, unless otherwise specified in a LOA or a facility directive.

Delete

i. If you decide, *after* accepting the transfer of radar identification, to delay the aircraft’s climb or descent through the vertical limits of the transferring controller’s area of jurisdiction, advise the transferring controller of that decision as soon as possible. *You* now have the responsibility to ensure that the necessary coordination is accomplished with any intervening controller(s) whose area of jurisdiction is

jurisdiction is affected by that delay, unless otherwise specified in a LOA or a facility directive.

NOTE-

Those en route facilities using HOST software that provides capability for passing interim altitude shall include the specific operations and procedures for use of this procedure in a LOA between the appropriate facilities.

affected by that delay, unless otherwise specified in a LOA or a facility directive.

Delete

HOST

5-4-7. POINT OUT

a. The transferring controller shall:

1. Obtain verbal approval before permitting an aircraft to enter the receiving controller's delegated airspace. *TERMINAL*. Automated approval may be utilized in lieu of verbal, provided the appropriate automation software is operational (automated point out function), and the procedures are specified in a facility directive/LOA.

New

New

2. Obtain the receiving controller's approval before making any changes to an aircraft's flight path, altitude, or data block information after the point out has been approved.

NOTE-

Those en route facilities using HOST software that provides capability for passing interim altitude shall include the specific operations and procedures for use of this procedure in a LOA between the appropriate facilities.

ERAM

5-4-7. POINT OUT

a. The transferring controller shall:

No Change

EN ROUTE. Between ERAM facilities, force the data block on the receiving controller's display for inter-facility point outs.

NOTE-

EN ROUTE. Forcing the data block ensures UTM service for that aircraft.

No Change

Delete

No further changes to section

HOST

5-5-4. MINIMA

Title thru c

New

New

New

ERAM

5-5-4. MINIMA

No Change

d. ERAM:

1. At or above FL 600- 10 miles

2. Below FL 600- 5 miles.

New	<p><u>3. Below FL 180 where all the following conditions are met – 3 miles:</u></p> <p><u>(a) Significant operational advantages can be obtained.</u></p> <p><u>(b) Within 40 miles of the preferred sensor, and within the 3 NM separation area.</u></p> <p><u>(c) The preferred sensor is providing reliable beacon targets.</u></p> <p><u>(d) Facility directives specifically define the 3 NM separation area.</u></p> <p><u>(e) The 3 NM separation area is displayable on the video map.</u></p> <p><u>(f) Involved aircraft are displayed using the 3 NM target symbol.</u></p> <p><i>Reference- FAAO JO 7210.3, Para 8-2-1, Three Mile Airspace Operations FAAO JO 7210.3, Para 11-8-15, Single Site Coverage ATTS Operations</i></p> <p>Renumbered <u>e</u> thru <u>h</u></p>
New	
<u>d</u> thru <u>g</u>	

No further changes to paragraph

<u>HOST</u>
5-5-9. SEPARATION FROM OBSTRUCTIONS
a. <u>Except in En Route Stage A/DARC or Stage A/EDARC</u> , separate aircraft from obstructions depicted on the radar display by the following minima:
a1 thru a2
b. <u>Except in En Route Stage A/DARC or Stage A/EDARC</u> , vertical separation of aircraft above an obstruction depicted on the radar display may be discontinued after the aircraft has passed it.
c. <u>Stage A/DARC or Stage A/EDARC</u> , apply the radar separation minima specified in para 5-5-4, Minima, subpara b1.

<u>ERAM</u>
5-5-9. SEPARATION FROM OBSTRUCTIONS
a. <u>TERMINAL</u> . Separate aircraft from obstructions depicted on the radar display by the following minima:
No Change
b. <u>TERMINAL</u> . Vertical separation of aircraft above an obstruction depicted on the radar display may be discontinued after the aircraft has passed it.
c. <u>EN ROUTE</u> . Apply the radar separation minima specified in para 5-5-4, Minima, subpara b1.

No further changes to paragraph

<u>HOST</u>
5-5-10. ADJACENT AIRSPACE
a. If coordination between the controllers concerned has not been effected, separate radar-controlled aircraft from the boundary of adjacent airspace in which radar separation is also being used

<u>ERAM</u>
5-5-10. ADJACENT AIRSPACE
No Change

by the following minima:

a1 thru a2

3. En route Stage A/DARC or Stage A/EDARC

a3(a) thru a3(b)

b. Separate radar-controlled aircraft from the boundary of airspace in which nonradar separation is being used by the following minima:

b1 thru b2

3. En route Stage A/DARC or Stage A/EDARC:

No Change

3. **EN ROUTE:**

No Change

No Change

No Change

3. **EN ROUTE**

No further changes to paragraph

HOST

5-5-11. EDGE OF SCOPE

Title thru b

c. En route Stage A/DARC or Stage A/EDARC:

ERAM

5-5-11. EDGE OF SCOPE

No Change

c. **EN ROUTE:**

No further changes to section

HOST

5-6-2. METHODS

a thru g

h. During stage A operation, update the route of flight in the computer unless an operational advantage is gained and coordination is accomplished.

ERAM

5-6-2. METHODS

No Change

h. **When flight data processing is available**, update the route of flight in the computer unless an operational advantage is gained and coordination is accomplished.

No further changes to section

HOST

5-14-3. COMPUTER ENTRY OF ASSIGNED ALTITUDE

The data block shall always reflect the current status of the aircraft unless otherwise specified in a facility directive. Whenever an aircraft is cleared to maintain an altitude different from that in the flight plan database, enter into the computer one of the following:

ERAM

5-14-3. COMPUTER ENTRY OF ASSIGNED ALTITUDE

The data block shall always reflect the current status of the aircraft unless otherwise specified in a facility directive **or LOA**. Whenever an aircraft is cleared to maintain an altitude different from that in the flight plan database, enter into the computer one of the following:

No further changes to paragraph

HOST

5-14-5. SELECTED ALTITUDE LIMITS

Title thru a

b. 2,200 feet above the highest and below the lowest flight level of the sector where 2,000 feet

ERAM

5-14-5. SELECTED ALTITUDE LIMITS

No Change

No Change

vertical separation is applicable.

NOTE-

1. The data block, for purposes of this paragraph, must contain the beacon code and Mode C altitude at a minimum.
2. Exception to these requirements may be authorized for specific altitudes in certain ARTCC sectors if defined in appropriate facility directives and approved by the En Route and Oceanic Operations Area Director.

NOTE-

1. The data block, for purposes of this paragraph, must contain the Mode C altitude **and call sign or beacon code** at a minimum.

No Change

No further changes to paragraph

HOST

5-14-7. COAST TRACKS

Do not use coast tracks in the application of either radar or nonradar separation criteria.

ERAM

5-14-7. COAST **AND FROZEN** TRACKS

Do not use information in data blocks displaying "CST" or "FRZN" in the application of either radar or non-radar separation.

HOST

5-14-8. CONTROLLER INITIATED COAST TRACKS

Title thru a

b. Prior to initiating a coast track, ensure the following:

1. A departure message or progress report corresponding with the aircraft's current position is entered into the computer.
2. The track being started is within the Posted Time Update Interval (PTUI) of the aircraft's Computer-estimated position and the Flight Plan Track Position Difference (FTPD) distance of the aircraft's flight plan route.

NOTE-

FTPD is an automation parameter, normally set to 15 miles, that is compared with the tracked target's perpendicular distance from the stored flight plan route. If the track is within the parameter miles, it is eligible for "FLAT tracking." PTUI is an automation parameter, normally set to 3 minutes, that is compared against the difference between the calculated time of arrival and the actual time of arrival over a fix. If the difference is greater than PTUI, the flight plan's stored data will be revised and fix-time update messages will be generated.

ERAM

5-14-8. CONTROLLER INITIATED COAST TRACKS

No Change

b. Prior to initiating a coast track, ensure **that a departure message or progress report corresponding with the aircraft's current position is entered into the computer.**

Delete

Delete

Delete

No further changes to paragraph

<u>HOST</u>
New Paragraph
New

<u>ERAM</u>
<p><u>5-14-9. ERAM COMPUTER ENTRY OF HOLD INFORMATION</u></p> <p><u>a. When an aircraft is issued holding instructions, the delay is ATC initiated, and the EFC is other than “no delay expected”:</u></p> <ol style="list-style-type: none"> <u>1. Enter a hold message.</u> <u>2. Maintain a paired track.</u> <u>3. Enter an EFC time via a hold message, the Hold Data Menu, or the Hold View.</u> <u>4. Enter non-published holding instructions via a hold message or the Hold Data Menu.</u> <p><i><u>NOTE-</u></i> <i><u>The ERAM hold message allows automatic calculation and reporting of aggregate delays.</u></i></p> <p><u>b. Unless otherwise specified in a facility directive, verbally coordinate non-published holding instructions when handing off an aircraft in hold status to another ERAM sector.</u></p> <p><u>c. An EFC time entered into the Hold Data Menu, Hold View, or the hold message constitutes coordination of the EFC.</u></p> <p><i><u>REFERENCE-</u></i> <i><u>FAAO JO 7210.3, Para 8-2-9, ERAM Hold Information Facility Directive Requirements</u></i></p>

<u>HOST</u>
New Paragraph
New
New

<u>ERAM</u>
<p><u>5-14-10. ERAM VISUAL INDICATOR OF SPECIAL ACTIVITY AIRSPACE (SAA) STATUS</u></p> <p><u>Sector controllers shall ensure the situation display accurately reflects the status of all SAAs that impact their area of control responsibility. When “SAA DOWN” is displayed in the Outage View, manually create visual indicators on the situation display to reflect changes to airspace status.</u></p> <p><i><u>NOTE-</u></i> <i><u>The "SAA DOWN" message in the Outage View means that SAA status is no longer being updated. The status of each SAA at the time of the failure, whether "on" or "off", will continue to be displayed. Status changes will not be automatically updated on the display until the outage is resolved.</u></i></p>

<u>HOST</u>
9-3-2. SEPARATION MINIMA
Title thru a
b. Provide radar separation of <u>3 miles (En route Stage A/DARC, FL 600 and above – 6 miles)</u> from the special use airspace peripheral boundary.
New
New

<u>ERAM</u>
9-3-2. SEPARATION MINIMA
No Change
b. Provide <u>the following</u> radar separation from the special use airspace peripheral boundary:
<u>1. FL600 and above-6 miles</u>
<u>2. Below FL600-3 miles.</u>

No further changes to section

<u>HOST</u>
10-2-5. EMERGENCY SITUATIONS
Title thru e
NOTE- <i>EN ROUTE. During Stage A operation, Code 7700 causes <u>EMRG</u> to blink in <u>field E</u> of the data block.</i>

<u>ERAM</u>
10-2-5. EMERGENCY SITUATIONS
No Change
NOTE- <i>EN ROUTE. ERAM: Code 7700 causes <u>an emergency indicator</u> to blink in the data block.</i>

No further changes to section

<u>HOST</u>
11-1-2. DUTIES AND RESPONSIBILITIES
a. Supervisory Traffic Management Coordinator-in-Charge (STMCIC) shall:
a1 thru 3a
4. Where authorized, perform <u>URET</u> data entries to keep the activation status of designated <u>URET</u> Airspace Configuration Elements current.
5. Perform assigned actions in the event of a <u>URET</u> outage or degradation, in accordance with the requirements of FAA Order 7210.3, Facility Operation and Administration, and as designated by facility directive.
a6
b. OS shall:
b1 thru b4
5. Where authorized, perform <u>URET</u> data entries to keep the activation status of designated <u>URET</u> Airspace Configuration Elements current.
6. Perform assigned actions in the event of a <u>URET</u> outage or degradation, in accordance with the requirements of FAA Order 7210.3, Facility

<u>ERAM</u>
11-1-2. DUTIES AND RESPONSIBILITIES
a. Supervisory Traffic Management Coordinator-in-Charge (STMCIC) shall:
No Change
4. Where authorized, perform <u>URET/EDST</u> data entries to keep the activation status of designated Airspace Configuration Elements current.
5. Perform assigned actions in the event of <u>an</u> outage or degradation, in accordance with the requirements of FAA Order 7210.3, Facility Operation and Administration, and as designated by facility directive.
No Change
b. OS shall:
No Change
5. Where authorized, perform data entries to keep the activation status of designated <u>URET/EDST</u> Airspace Configuration Elements current.
6. Perform assigned actions in the event of <u>an</u> outage or degradation, in accordance with the requirements of FAA Order 7210.3, Facility

Operation and Administration, and as designated by facility directive.

b7

c. ATCSs shall:

c1 thru c3

4. Where authorized, perform URET data entries to keep the activation status of designated URET Airspace Configuration Elements current.

5. Perform assigned actions in the event of a URET outage or degradation, in accordance with the requirements of FAA Order 7210.3, Facility Operation and Administration, and as designated by facility directive.

Operation and Administration, and as designated by facility directive.

No Change

c. ATCSs shall:

No Change

4. Where authorized, perform data entries to keep the activation status of designated URET/EDST Airspace Configuration Elements current.

5. Perform assigned actions in the event of an outage or degradation, in accordance with the requirements of FAA Order 7210.3, Facility Operation and Administration, and as designated by facility directive.

No further changes to section

HOST

CHAPTER 13. DECISION SUPPORT TOOLS

Section 1. User Request Evaluation Tool (URET)

ERAM

No Change

Section 1. User Request Evaluation Tool (URET) **En Route Decision Support Tools (EDST)**

HOST

13-1-1. DESCRIPTION

URET is an en route decision support tool that is used by the sector team in performing its strategic planning responsibilities. URET uses flight plan data, forecast winds, aircraft performance characteristics, and track data to derive expected aircraft trajectories, and to predict conflicts between aircraft and between aircraft and special use or designated airspace. It also provides trial planning and enhanced flight data management capabilities.

ERAM

13-1-1. DESCRIPTION

URET/**EDST** is an en route decision support tool that is used by the sector team in performing its strategic planning responsibilities. URET/**EDST** uses flight plan data, forecast winds, aircraft performance characteristics, and track data to derive expected aircraft trajectories, and to predict conflicts between aircraft and between aircraft and special use or designated airspace. It also provides trial planning and enhanced flight data management capabilities. **Under ERAM the URET/EDST capabilities constitute the initial En Route decision support tools.**

HOST

13-1-2. CONFLICT DETECTION AND RESOLUTION

a. Actively scan URET information for predicted aircraft-to-aircraft and aircraft-to-airspace alerts.

b. When a URET alert is displayed, evaluate the alert and take appropriate action as early as practical,

ERAM

13-1-2. CONFLICT DETECTION AND RESOLUTION

a. Actively scan URET/**EDST** information for predicted aircraft-to-aircraft and aircraft-to-airspace alerts.

b. When a **conflict probe** alert is displayed, evaluate the alert and take appropriate action as early

in accordance with duty priorities.

c. Prioritize the evaluation and resolution of URET alerts to ensure the safe, expeditious, and efficient flow of air traffic.

NOTE-

URET alerts are based on radar separation standards. Caution should be used when situations include nonstandard formations.

d. When a URET alert is displayed and when sector priorities permit, give consideration to the following in determining a solution:

d1 thru d2

e. When the URET Stop Probe feature is activated for an aircraft, Conflict Probe for that aircraft shall be restarted before transfer of control, unless otherwise coordinated.

NOTE-

The requirement in paragraph 13-1-2e does not apply to aircraft entering a non-URET facility.

as practical, in accordance with duty priorities.

c. Prioritize the evaluation and resolution of **conflict probe** alerts to ensure the safe, expeditious, and efficient flow of air traffic.

NOTE-

Conflict probe alerts are based on standard radar separation. Conflict probe does not account for instances in which greater separation may be needed (e.g., non-standard formations, A380) or where reduced separation is permitted (e.g., 3mile airspace).

d. When a **conflict probe** alert is displayed and when sector priorities permit, give consideration to the following in determining a solution:

No Change

e. When the Stop Probe feature is activated for an aircraft, **conflict probe** for that aircraft shall be restarted before transfer of control, unless otherwise coordinated.

NOTE-

The requirement in paragraph 13-1-2e does not apply to aircraft entering a non-URET/EDST facility.

HOST

13-1-3. TRIAL PLANNING

a. When URET is operational at the sector and when sector priorities permit, use the trial plan capability to evaluate:

ERAM

13-1-3. TRIAL PLANNING

a. When URET/EDST is operational at the sector and when sector priorities permit, use the trial plan capability to evaluate:

No further changes to paragraph

HOST

13-1-4. URET-BASED CLEARANCES

When the results of a trial plan based upon a user request indicate the absence of alerts, every effort should be made to grant the user request, unless the change is likely to adversely affect operations at another sector.

ERAM

13-1-4. **CONFLICT PROBE**-BASED CLEARANCES

No Change

HOST

13-1-5. THE AIRCRAFT LIST (ACL), DEPARTURE LIST (DL), AND FLIGHT DATA MANAGEMENT

a

b. Actively scan URET to identify automated

ERAM

13-1-5. THE AIRCRAFT LIST (ACL), DEPARTURE LIST (DL), AND FLIGHT DATA MANAGEMENT

No Change

b. Actively scan URET/EDST to identify automated

notifications that require sector team action.

c thru e

f. When URET is operational, sector teams shall post flight progress strips for any non-radar flights.

g. When URET is operational, a flight progress strip shall be posted for any flight plan not contained in the Host Computer System.

h. When URET is operational, sector teams shall post any flight progress strip(s) that are deemed necessary for safe or efficient operations. The sector team shall comply with all applicable facility directives to maintain posted flight progress strips.

i. The URET Drop Track Delete option shall be used in accordance with facility directives.

notifications that require sector team action.

No Change

f. Sector teams shall post flight progress strips for any non-radar flights.

g. A flight progress strip shall be posted for any flight plan not contained in the EAS.

h. Sector teams shall post any flight progress strip(s) that are deemed necessary for safe or efficient operations. The sector team shall comply with all applicable facility directives to maintain posted flight progress strips.

i. The Drop Track Delete option shall be used in accordance with facility directives.

HOST

13-1-6. MANUAL COORDINATION AND THE URET COORDINATION MENU

a. Where automated coordination with a facility is not available (e.g., an international facility, a VFR tower), use the URET Coordination Menu or a flight progress strip to annotate manual coordination status, in accordance with facility directives.

b. When the URET Coordination Menu is used and the flight plan is subsequently changed, remove the yellow coding from the Coordination Indicator after any appropriate action has been taken.

ERAM

13-1-6. MANUAL COORDINATION AND THE COORDINATION MENU

a. Where automated coordination with a facility is not available (e.g., an international facility, a VFR tower), use the Coordination Menu or a flight progress strip to annotate manual coordination status, in accordance with facility directives.

b. When the Coordination Menu is used and the flight plan is subsequently changed, remove the yellow coding from the Coordination Indicator after any appropriate action has been taken.

HOST

13-1-7. HOLDING

For flights in hold, use URET Hold Annotations, Hold Data Menu, Hold View, a flight progress strip, or a facility approved worksheet to annotate holding instructions, in accordance with facility directives.

ERAM

13-1-7. HOLDING

For flights in hold, use the ERAM Hold Data Menu/Hold View, the URET/EDST Hold Annotations Menu, a flight progress strip, or a facility approved worksheet, to annotate holding instructions, in accordance with facility directives.

HOST

13-1-8. RECORDING OF CONTROL DATA

a thru b

c. When the URET Free Text Area is used to enter control information, authorized abbreviations shall be

ERAM

13-1-8. RECORDING OF CONTROL DATA

No Change

c. When the ACL or DL Free Text Area is used to enter control information, authorized abbreviations

used. You may use:

c1 thru c2

3. The URET equivalents for control information symbols authorized in TBL 13-1-3.

c4 thru c5

d. When the URET Free Text Area is used to enter control information, the Free Text Area shall remain open and visible. When no longer relevant, the information entered into the Free Text Area shall be updated or deleted.

shall be used. You may use:

No Change

3. The URET/EDST equivalents for control information symbols authorized in TBL 13-1-3.

No Change

d. When the ACL or DL Free Text Area is used to enter control information, the Free Text Area shall remain open and visible. When no longer relevant, the information entered into the Free Text Area shall be updated or deleted.

No further changes to paragraph

HOST

13-1-9. ACKNOWLEDGEMENT OF AUTOMATED NOTIFICATION

a. The URET Inappropriate Altitude for Direction of Flight (IAFDOF) feature shall be used in the automatic mode (i.e., IAFDOF Manual shall remain deselected) unless otherwise authorized in a facility directive.

ERAM

13-1-9. ACKNOWLEDGEMENT OF AUTOMATED NOTIFICATION

a. The URET/EDST Inappropriate Altitude for Direction of Flight (IAFDOF) feature shall be used in the automatic mode (i.e., IAFDOF Manual shall remain deselected) unless otherwise authorized in a facility directive.

No further changes to paragraph

HOST

13-1-10. CURRENCY OF TRAJECTORY INFORMATION

Title thru a

b. An exception to the requirement to enter or update interim altitudes may be authorized for certain ARTCC sectors if explicitly defined in an appropriate facility directive.

NOTE-

URET accuracy in assigning alert notification is dependent upon entry/update of a flight's interim altitude.

ERAM

13-1-10. CURRENCY OF TRAJECTORY INFORMATION

No Change

No Change

NOTE-

Conflict probe accuracy in assigning alert notification is dependent upon entry/update of a flight's interim altitude.

HOST

13-1-11. DELAY REPORTING

a. Adhere to all applicable delay reporting directives while URET is operational.

b. Delay information shall be recorded. Delay information may be automatically recorded via use of the URET Hold Annotations Menu, or manually on flight progress strips or facility-approved worksheets,

ERAM

13-1-11. DELAY REPORTING

a. Adhere to all applicable delay reporting directives.

b. Delay information shall be recorded. Delay information may be automatically recorded via use of the URET/EDST Hold Annotations Menu, **ERAM Hold Data Menu, ERAM Hold View,** or manually

in accordance with the facility-defined standard.

c. When using URET to automatically record delay information, the URET hold annotations shall be deleted when the aircraft is cleared from holding.

NOTE-

Delay information cannot be accurately recorded unless URET annotations are deleted when the aircraft is cleared from holding.

on flight progress strips or facility-approved worksheets, in accordance with the facility-defined standard.

c. When using **the Hold Annotation Menu** to automatically record delay information, the hold annotations shall be deleted when the aircraft is cleared from holding.

NOTE-

*When using URET/EDST hold annotations, delay information cannot be accurately recorded unless **the annotations are deleted when the aircraft is cleared from holding. When using the ERAM Hold Data Menu or Hold View, delays are automatically recorded when the aircraft is cleared out of hold.***

HOST

13-1-12. OVERDUE AIRCRAFT

Upon receipt of the URET overdue aircraft notification take appropriate actions set forth in Chapter 10, Section 3, Overdue aircraft.

NOTE-

URET overdue aircraft notification is based on radar track data. Updating an aircraft's route of flight will remove the overdue aircraft notification.

ERAM

13-1-12. OVERDUE AIRCRAFT

Upon receipt of the overdue aircraft notification take appropriate actions set forth in Chapter 10, Section 3, Overdue aircraft.

NOTE-

URET/EDST overdue aircraft notification is based on radar track data. Updating an aircraft's route of flight will remove the overdue aircraft notification.

HOST

13-1-14. FORECAST WINDS

In the event that current forecast wind data are not available, continue use of with appropriate recognition that alert and trajectory data may be affected.

ERAM

13-1-14. FORECAST WINDS

In the event that current forecast wind data are not available, continue use of **conflict probe and trial planning** with appropriate recognition that alert and trajectory data may be affected.

HOST

13-1-15. INTERFACILITY CONNECTIVITY

In the event of a loss of connectivity to a neighboring URET system, continue use of URET with appropriate recognition that alert data may be affected.

ERAM

13-1-15. INTERFACILITY CONNECTIVITY

In the event of a loss of connectivity to **an adjacent URET or ERAM facility**, continue use of URET/EDST with appropriate recognition that alert data may be affected.

HOST

13-1-16. PRIMARY RDP/FDP OUTAGES

In the event of a primary RDP/FDP outage, electronic flight data may be used to support situational awareness while the facility transitions to the backup RDP capabilities or non radar procedures.

NOTE-
Without primary system input, URET data cannot be updated and becomes stale.

ERAM

13-1-16. **SURVEILLANCE AND FLIGHT DATA** OUTAGES

In the event of a **surveillance or flight data** outage, electronic flight data may be used to support situational awareness while the facility transitions to **alternate automation** capabilities or non radar procedures.

Delete

HOST

13-1-17. URET AIRSPACE CONFIGURATION ELEMENTS

a. URET Airspace Configuration Elements are:

a1 thru a2

3. URET adapted restrictions.

b. Where assigned as a sector responsibility by facility directive, the sector team shall update URET Airspace Configuration Elements to reflect current status.

New

c. For Airspace Configuration Elements designated as a sector responsibility, notify the operational supervisor when the status of an Airspace Configuration Element has been modified in URET.

ERAM

13-1-17. AIRSPACE CONFIGURATION ELEMENTS

a. Airspace Configuration Elements are:

No Change

3. Aadapted restrictions.

b. Where assigned as a sector responsibility by facility directive, the sector team shall update Airspace Configuration Elements to reflect current status.

NOTE-
Unless otherwise covered in an LOA or facility directive, activating or scheduling the SAA in the Airspace Status View does NOT constitute coordination for activation of airspace.

c. For Airspace Configuration Elements designated as a sector responsibility, notify the operational supervisor when the status of an Airspace Configuration Element has been modified.

HOST

Index

[References are to page numbers]
Conflict Alert (Host), 5-14-1
Mode C Intruder Alert (Host), 5-14-1

ERAM

Index

[References are to page numbers]
Conflict Alert (Host/**ERAM**), 5-14-1
Mode C Intruder Alert (Host/**ERAM**), 5-14-1

HOST

Appendix D.

Standard Operating Practice (SOP) for the Transfer of Position Responsibility

1 THRU 6 (a)

b. VERBAL BRIEFING

Specialist Being Relieved

1. Brief the relieving specialist on the abnormal status of items not listed on the Status Information Area(s) as well as on any items of special interest calling for verbal explanation or additional discussion.

ERAM

Appendix D.

Standard Operating Practice (SOP) for the Transfer of Position Responsibility

No Change

b. VERBAL BRIEFING

Specialist Being Relieved

1. Brief the relieving specialist on the abnormal status of items not listed on the Status Information Area(s) as well as on any items of special interest calling for verbal explanation or additional discussion. **ERAM: Controllers shall brief on equipment with the Outage View displayed.**