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

ORDER
JO 7110.109B

Effective Date:
March 8, 2014

SUBJ: Center Radar Presentation (CENRAP)

1. Purpose of This Order. This order prescribes air traffic control (ATC) procedures and phraseology for use by personnel providing ATC services using CENRAP.

2. Audience. This order applies to all Air Traffic Organization (ATO) field facilities and the Department of Defense (DOD), where applicable.

3. Where Can I Find This Order? This order is available on the MyFAA employee Web site at https://employees.faa.gov/tools_resources/orders_notices/ and on the FAA Web site at http://www.faa.gov/regulations_policies/orders_notices/.

4. Cancellation. This order cancels FAA Order 7110.109A, Center Radar Presentation (CENRAP), dated July 31, 1994.

5. Explanation of Policy Changes. This order is being updated to reflect current paragraphs in FAA Order JO 7210.3 and Order JO 7110.65. Additionally, it updates ARTCC HOST computer system to ERAM.

6. Procedures.

a. CENRAP-Plus. All standard terminal primary target radar separation standards must apply when in CENRAP-Plus except the use of Mode C altitude readout for vertical separation purposes.

b. CENRAP. The following separation criteria and limitations are intended to provide ATC service during periods of terminal radar failure. It is not intended to increase the level of air traffic services provided beyond that which is provided during normal operations.

(1) Use vertical separation of 1,000 feet between instrument flight rules (IFR) aircraft, and between visual flight rules (VFR) aircraft when passing below or behind a heavy aircraft. Use 500 feet vertical separation between VFR aircraft and other VFR or IFR aircraft when heavy aircraft are not involved. The use of Mode C altitude readout for vertical separation purposes is not authorized.

(2) The following lateral separation may be used in lieu of vertical separation. These lateral separation standards must apply to all IFR aircraft and all VFR aircraft receiving sequencing and/or separation service:

(a) 5 miles radar separation.

(b) 3 miles radar separation may be used when the following conditions are met and are included in a Letter of Agreement between the appropriate HOST/ERAM and ARTS facilities:

(i) A significant operational advantage can be obtained by modifying the CENRAP radar site adaptation to single site coverage, per procedures defined in FAA Order JO 7210.3, Paragraph 8-2-1, Single Site Coverage Stage A.

(ii) The airspace in which radar separation is applied is less than 40 miles from the Air Route Traffic Control Center's adapted single site radar.

(c) Apply all appropriate wake turbulence separation criteria as per FAA Order JO 7110.65.

(3) Provide traffic advisories, workload permitting, and safety advisories to IFR and VFR aircraft when operating in CENRAP. In addition, where sequencing and/or separation services to VFR aircraft are normally provided, the Air Traffic Manager, or designated representative, must determine if these services can be provided to VFR aircraft without impacting services to IFR aircraft during CENRAP operations. Procedures for providing separation and/or sequencing services to VFR aircraft must be included in a facility directive if it is determined these services will be provided.

(4) Vertical separation between aircraft on passing and diverging courses must be applied in accordance with FAA Order JO 7110.65, Paragraph 5-5-7b, En Route.

(5) Visual separation standards must be applied in accordance with FAA Order JO 7110.65, Paragraph 7-2-1a, Terminal.

(6) Separate aircraft from obstructions by the following:

(a) 5 miles

(b) 3 miles provided the conditions of Paragraph 6b(2)(b) of this order are met.

NOTE-
The prominent obstruction protected airspace scribed on a terminal video/geo map is not shown as 5 miles.

(7) Separate aircraft from adjacent airspace in accordance with FAA Order JO 7110.65, Paragraph 5-5-10a3, and b3.

(8) Separate aircraft from edge of the scope in accordance with FAA Order JO 7110.65, Paragraph 5-5-11c.

(9) When visual separation cannot be provided, separate a departing aircraft from an arriving aircraft on final approach by the following:

(a) 5 miles

(b) 3 miles provided the conditions of Paragraph 6b(2)(b) of this order are met.

(10) Provide the following separation between aircraft when conducting parallel Instrument Landing System (ILS)/Microwave Landing System Approaches (MLS):

(a) 5 miles

(b) 3 miles provided the conditions of Paragraph 6b(2)(b) of this order are met.

(11) Simultaneous parallel ILS and MLS approaches are not authorized when using CENRAP.

7. Certification and Performance Criteria.

a. Perform an alignment check before using CENRAP in accordance with FAA Order JO 7110.65, Paragraph 5-1-2. Position reports from targets of opportunity must be used if unable to comply with FAA Order JO 7110.65, Paragraph 5-1-2.

NOTE-
A video/geo map mark which aligns with the North Mark generated by the HOST/ERAM computer should be scribed on the video maps.

b. A beacon target will be displayed as a virgule (/) and a primary target, if used, displayed as a period (.).

NOTE-
1. CENRAP is normally a beacon-only system and the appropriate separation minima is based on beacon-only standards and these symbols. ARTS facilities normally elect not to receive primary target data from the center due to the potential of overloading the ARTS system when there is a high level of anomalous propagation in the area.

2. The SYM inhibit switch on the ARTS IIA radar alphanumeric display system will be in the OFF position when using CENRAP. This will prevent the loss of the virgule "/" during the CENRAP operation.

c. An entry must be made with an appropriate explanation in the Daily Record of Facility Operation, FAA Form 7230-4, as follows:

(1) When required to switch to a CENRAP operation.

(2) During periodic checks of CENRAP.

(3) During periods of CENRAP training.

d. Advise pilots when the primary radar is out of service and CENRAP is in operation.

PHRASEOLOGY-
PRIMARY RADAR OUT OF SERVICE. VFR SERVICES ARE AVAILABLE ONLY TO AIRCRAFT WITH TRANSPONDERS AND ARE LIMITED TO SAFETY ALERTS, TRAFFIC ADVISORIES, SEPARATION (if appropriate) AND SEQUENCING (if appropriate) TO (name of airport).

(1) The advisory may be omitted when provided on the Automatic Terminal Information Service (ATIS) and the pilot indicates having the ATIS information.

e. System Certification procedures shall be in accordance with FAA Order JO 6190.6b, Maintenance of Automated Radar Terminal Systems and Remote Tower Alphanumeric Display System and Tracking Systems (ARTS IIIA), and FAA Order 6190.19b, Maintenance of the Automated Radar Terminal System Expansion (ARTS IIE).

8. RADAR SERVICE LIMITATIONS.

a. Surveillance approaches are not authorized when using CENRAP.

b. Minimum safe altitude warning and conflict alert are not available with CENRAP or CENRAP-Plus.

c. Center weather data is not available when using CENRAP/CENRAP-Plus.

d. The normal ARTS video/geo map will be used with center radar input. Fix accuracy checks must be completed in accordance with FAA Order JO 7210.3.

e. Prearranged coordination agreements or directives which require the use of Mode C altitudes will/must not be exercised during CENRAP operations.

9. FLIGHT CHECK CERTIFICATION REOUIREMENTS.

a. CENRAP must be flight checked prior to initial operational use. The flight check may be completed with either FAA flight inspection aircraft or targets of opportunity to verify the minimum altitudes at which a CENRAP target can be tracked within the terminal airspace.

b. The CENRAP facility order required in Paragraph l0a(2) of this order must include minimum altitudes that targets can be tracked with CENRAP .

c. Any unsuccessful or questionable flight check will require a special flight check by a flight inspection field office aircraft.

d. Records of CENRAP flight inspections must be in accordance with FAA Order 8200.1, United States Flight Inspection Manual.

10. LOCAL PROCEDURES.

a. A facility directive must contain, at a minimum, the following:

(1) The operational steps required to transition to and from CENRAP/CENRAP-Plus operations.

(2) The minimum altitude(s) that targets can be tracked with CENRAP or CENRAP-Plus in the terminal airspace.

REFERENCE-
Paragraph 9a

(3) The level of VFR services to be provided and the procedures to follow for these services.

REFERENCE-
Paragraph 6b(3)

(a) Local procedures must be developed between tower and approach to permit VFR arrival/departure operations in the event that VFR sequencing services normally provided to the primary airport cannot be accomplished.

b. Training and proficiency requirements.

(1) Facilities which utilize CENRAP or CENRAP-Plus as a primary backup mode must:

(a) Include within their respective facility directives the operational steps required to transition to and from the CENRAP\CENRAP-Plus mode. Training must ensure personnel are knowledgeable in the procedures used to transition to and from the backup mode, and that personnel can apply the appropriate separation standards for that mode.

11. HOST/ERAM CENTER RESPONSIBILITIES.

a. Facility managers must provide the appropriate operational personnel with the following CENRAP/CENRAP-Plus information.

(1) In the event that the HOST/ERAM center has exceeded, or is about to exceed the number of ARTS facilities which can be sent CENRAP\CENRAP-Plus for processing, terminate processing in the following order:

(a) First, those facilities engaged in CENRAP/CENRAP-Plus operations for proficiency or training.

(b) Second, those facilities with the lowest level of existing/projected traffic.

(2) Termination of CENRAP/CENRAP-Plus processing to the ARTS facility/facilities must not take place until the ARTS facility has been notified and adequate time has been provided to prepare for the loss of center target information.

12. Distribution. This notice is distributed to the following ATO service units: Air Traffic Services, System Operations, and Mission Support; ATO Safety and Technical Training; the Air Traffic Safety Oversight Service; the William J. Hughes Technical Center; the Mike Monroney Aeronautical Center, and the Department of Defense (DOD).

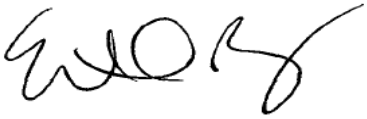
13. Background. This document change revises reference paragraphs to FAA Order JO 7210.3 and FAA Order JO 7110.65. CENRAP is a combined software, hardware, and procedures program to provide ARTS IIA/IIIA facilities with the HOST/ERAM center radar presentation in the event of terminal radar system failure or non-availability. It was developed to provide a limited radar environment that allows a more expeditious means of controlling aircraft than utilizing non-radar procedures.

14. Definitions.

a. CENRAP. A computer program that permits the processing of specified En Route HOST/ERAM secondary target radar information by the Automated Radar Terminal System (ARTS) processors and the presentation of this information on the ARTS position displays. This program is used as a backup system when the terminal radar fails and/or is out of service. CENRAP requires that the ARTS processor be operational.

b. CENRAP-Plus. The process which simultaneously presents CENRAP secondary radar information, and terminal airport surveillance radar (ASR) information, on the ARTS display. This process is used when only the ASR secondary beacon radar system fails and/or is scheduled out of service.

c. North Mark. A beacon data block sent by the HOST/ERAM computer to be displayed by the ARTS on the 360-degree magnetic bearing from the ASR site. The North Mark is used to ensure correct range/azimuth orientation during periods of CENRAP.



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2/4/14
Date Signed