ORDER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

7210.37B

5/6/85

SUBJ: EN ROUTE MINIMUM IFR ALTITUDE (MIA) SECTOR CHARTS

1. PURPOSE. Establishes amended procedures and criteria to develop MIA sector charts for en route air traffic facilities.

2. DISTRIBUTION. Distributed to offices in Washington and Regional headquarters, FAA Technical Center, Mike Monroney Aeronautical Center, air traffic facilities, and Flight Inspection Field Offices.

3. CANCELLATION. Order 7210.37A, dated March 7, 1980, is canceled. Joint AFO-700/AAT-300 letter dated May 18, 1981, subject: En Route IFR Altitude Sector Charts is canceled.

4. ACTION. Each air route traffic control center shall develop and implement MIA sector charts using these procedures/criteria. Use Appendix 1 for facility status accounting and FIFO chart data review and approval.

5. MIA SECTOR CHARTS. MIA sector charts provide minimum IFR altitude information for off-airway operations. MIA charts and associated clearance altitudes are established without respect to normal radar coverage within the area concerned. It is the controllers responsibility to determine if a target return is adequate for radar control.

6. MIA SECTOR CHARTING CRITERIA. Establish MIA's with respect to all surface areas in delegated airspace as well as adjacent areas where control responsibility is assumed because of early handoff or track initiation. Divide the MIA charts into areas (referred to as MIA areas) as required to accommodate different MIA's without respect to sector or facility boundaries, as follows:

a. Establish the lateral boundaries of MIA areas:

(1) Using sectional aeronautical charts. The Maximum Elevation Figures (MEF) located in sectional quads may be used as a guide to establishing the MIA.

(2) Using geographical points defined by latitude and longitude to the nearest second.

(3) Addressing operational requirements (i.e., normal traffic flows, minimum en route altitudes (MEA) where lower than MIA), where possible.

(4) A minimum of 5 nautical miles (NM) from the terrain/obstruction used to establish the MIA for each MIA area, except where such terrain/obstruction is located within 5NM of the lateral limits of an airway, (or Part 95 direct route or documented non-Part 95 off-airway route). For the latter, the limits of the airway (or route) will serve as the associated MIA area boundary.

b. Establish the MIA for each area:

(1) By applying the appropriate mountainous or nonmountainous obstruction clearance criteria per Orders 8260.19 and 8260.3. Round the altitudes to the nearest 100-foot increment.

(2) Within controlled airspace, by ensuring that the depicted MIA is at least 300 feet above the floor of controlled airspace.

(3) Within uncontrolled airspace, by applying the appropriate mountainous/nonmountainous clearance criteria without respect to overlying controlled airspace in paragraph 6.b.(2) above.

Note. - The existence of a MIA in uncontrolled airspace relates to terrain/obstruction clearance only, it does not constitute authority to conduct IFR operations within uncontrolled airspace.

Reference. - 7110.65 - Uncontrolled Airspace and Application (Vectoring).

(4) Where an airway MEA is below an adjacent MIA area altitude, it may be necessary to adapt the airway or an appropriate block of airspace containing the airway as a separate MIA area to preclude E-MSAW nuisance alerts. MEA's shall be obtained from en route low altitude charts and thus become the adopted E-MSAW alerting altitude for an MIA area that defines an airway. Since radar vectoring along an airway, or radial thereof, requires greater lateral obstruction/terrain clearance than would normally be imposed on a flight that has been specifically cleared via the airway, an independent check must be made to ensure that vectoring within an MIA defined airway would not result in reduction of the appropriate clearance criteria.

c. Where small contiguous MIA areas with different altitudes do not serve an operational need, combine them using the highest applicable MIA.

d. To avoid a large MIA area with an excessively high altitude due to an isolated prominent obstruction, enclose the obstruction within its own MIA area. When the isolated obstruction is terrain, evaluate related slopes or ridge lines to ensure appropriate obstruction clearance criteria is applied.

e. Each MIA area shall have the terrain/obstruction that constitutes the basis for the MIA, in addition to its elevation, highlighted in such a manner that would allow it to be easily found by a controller, but not clutter the MIA chart. Large MIA areas with irregular or precipitous or multiple obstructions may have more than one elevation highlighted.

f. MIA areas should be labeled with respect to the E-MSAW area identification criteria. The identifier has three letters and two digits (LLLdd), to identify areas relative to significant geographical points or fixes.

7. MIA SECTOR CHART DISPLAY. Applicable portions of the facility's MIA chart shall be displayed at each low altitude sector. This MIA sector chart shall accommodate operational requirements. Air traffic managers shall determine the appropriate method of displaying this information at the sector. MIA's shall be displayed with each associated MIA area. For an airway adapted as a MIA area, (reference paragraph 6.b.(4)):

a. If the MEA is sufficient for vectoring, the MIA and the MEA shall be depicted as one altitude for that area.

b. If a higher altitude is required for vectoring, then both the adopted E-MSAW alerting altitude (MEA) and the vectoring altitude shall be displayed on the MIA sector chart, associated with the proper area, and separated by a slash (i.e., 90/70). Each sector chart or facility directive shall contain an explanation of these split altitudes to the effect that:

(1) The higher altitude on the left of the slash is the appropriate altitude for off-airway operations (radar vectoring).

(2) The lower altitude to the right of the slash is the adopted E-MSAW alerting altitude.

8. MIA SECTOR CHART PROCESSING. Process MIA charts and altitude reduction requests per Order 8260.3 criteria as follows:

a. Draw MIA sector charts directly on current sectional charts.

b. Prepare MIA sector chart and chart data record in duplicate. Indicate amount of obstacle clearance reduction in ALT ADJ (altitude adjustment) column. This column is also used to document the difference in required altitude and round-off altitude. Use REMARKS column for explanation.

c. Forward charts and chart data records to the FIFO for certification and annual review. One copy of each chart and chart data record with the FIFO manager's signature will be returned to the facility.

d. Monitor available sources including the weekly National Flight Data Digest (NFDD) pertaining to construction notices that may affect specific MIA areas. When needed, revise the affected charts.

e. Verify that the altitude information adapted in the NAS E-MSAW polygons agree with the MIA sector charts.

John R. Ryan
Director, Air Traffic Operations Service

APPENDIX 1. MIA SECTOR CHART DATA RECORD

MIA SECTOR CHART DATA RECORD

AREA	CONTROLLING OBSTRUCTION	LOCATION LAT/LONG	ELEV MSL	ROC	ALT ADJ	MINIMUM IFR ALT	REMARKS

FAA Form 7210-9 (5-85) Local Repro Authorized

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SUBJECT: MIA Sector Chart Certification

FROM:

TO:

The enclosed charts and MIA Sector Chart Data Records have been reviewed and are submitted for FIFO certification.

The following charts were used in review:

NAME OF SECTIONAL CHART	EDITION	DATE

APPROVAL DATE _____

SIGNATURE _____
ATC FACILITY CHIEF

APPROVAL DATE _____

SIGNATURE _____
FIFO MANAGER