CHANGE

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

JO 7210.3Y
CHG 2

Effective Date:
January 8, 2015

SUBJ: Facility Operation and Administration

1. Purpose of This Change. This change transmits revised pages to Federal Aviation Administration Order JO 7210.3Y, Facility Operation and Administration, and the Briefing Guide.

2. Audience. This change applies to all Air Traffic Organization (ATO) personnel and anyone using ATO directives.

3. Where Can I Find This Change? This change is available on the FAA Web site at http://faa.gov/air_traffic/publications and https://employees.faa.gov/tools_resources/orders_notices/.

4. Explanation of Policy Change. See the Explanation of Changes attachment which has editorial corrections and changes submitted through normal procedures. The Briefing Guide lists only new or modified material, along with background.

5. Distribution. This change is distributed to selected offices in Washington headquarters, service area offices, regional offices, the William J. Hughes Technical Center, the Mike Monroney Aeronautical Center, all air traffic field facilities, international aviation field offices, and interested aviation public.

6. Disposition of Transmittal. Retain this transmittal until superseded by a new basic order.

7. Page Control Chart. See the page control chart attachment.

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Vice President, Mission Support Services
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Date: 11/12/14

Explanation of Changes
Change 2

Direct questions through appropriate facility/service center office staff to the office of primary responsibility (OPR)

a. 2-2-4. DUTY FAMILIARIZATION AND THE TRANSFER OF POSITION RESPONSIBILITY
2-6-1. WATCH SUPERVISION

This change adds a requirement for facilities to annually review the sector or position checklist; and adds a requirement for facility managers to identify and include in their Standard Operating Procedures (SOP), administrative tasks that are not to be performed in the operational area. This change cancels and incorporates N JO 7210.874, 2014 Top 5 Corrective Action Plan, effective September 30, 2014.

b. 2-6-7. BASIC WATCH SCHEDULE

This change is designed to improve controller alertness and performance by reducing the hazards of fatigue while assigned operational duties. Further, these changes better support safety–related administrative requirements and do not add risk to the National Airspace System.

c. 2-9-6. VISIBILITY CHARTS

The requirement in 7210.3Y, paragraph 2-9-6, currently states the National Weather Service (NWS) personnel, in conjunction with the air traffic managers, must prepare and maintain visibility charts. This change removes the requirement for NWS personnel to assist the air traffic manager in preparing and maintaining visibility charts.

d. 3-7-3. DISPLAY MAP DATA
10-3-14. GO-AROUND/MISSED APPROACH

This change incorporates changes to Display Map Data by adding virtual intersections to the list of available maps; and incorporates changes to Go-Around/Missed Approach changes related to Nonintersecting Converging Runway Operations This change cancels and incorporates N JO 7210.860, Converging Runway Operations, effective January 15, 2014.

e. 3-8-2. MINIMUM VECTORING ALTITUDE CHARTS (MVAC) PREPARATION

This paragraph is being revised to reflect the Aero Nav Services reorganization. It removes all references to Adverse Assumption Obstacle (AAO) rounding and its documentation requirements, removes reference to 91.177 due to the changes to Terminal Instrument Procedures (TERPS), and removes the requirement to forward the minimum vectoring altitude (MVA) request to the OSG with an original signature. It also adds process information for rounding down to the nearest 100-foot increment, and when required, that the facility MVA Cover Letter contain a statement that any issued altimeter settings are within 65 NM of a rounded down sector, and/or provides the 5–year average cold temperature.

f. 6-9-1. GENERAL
6-9-5. NON–RVSM REQUIREMENTS

This change is updated to define four general requirements and exceptions to non–RVSM aircraft operating in RVSM airspace within the oceanic environment This change cancels and incorporates N JO 7210.861 effective February 14, 2014.

g. 10-4-9. SIMULTANEOUS CONVERGING INSTRUMENT APPROACHES

This change cancels FAA Order 7110.98A, Simultaneous Converging Instrument Approaches, and eliminates the current method of identifying converging Instrument Landing System (ILS) approach procedures on approach plates. This change incorporates the procedures from FAA Order 7110.98A into FAA Order JO 7210.3, creates a new paragraph, and realigns existing paragraphs accordingly.

h. Entire Publication

Additional editorial/format changes were made where necessary. Revision bars were not used because of the insignificant nature of these changes.

PAGE CONTROL CHART
Change 2

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Section 2. Responsibilities

2–2–1. LEGAL LIABILITIES OF PERSONNEL

a. Guidelines for representing Federal employees named in tort claims are promulgated by the Department of Justice (28 CFR Part 50).

b. When warranted, disciplinary action must be taken without regard to possible adverse effects on the FAA position in subsequent lawsuits, enforcement proceedings, or similar actions.

c. In the case of an accident or incident resulting in a National Transportation Safety Board (NTSB) or a military investigation or hearing, it may be necessary to delay disciplinary action until the determination of the investigation or hearing. This is done only to ensure that all facts are known before final action is taken. The determination in such investigations must not be used as a basis for initiating disciplinary action.

2–2–2. JOB REQUIREMENTS

Each person must be familiar with the duties and responsibilities of his/her own position, those of his/her subordinates, if applicable, and to a limited extent, with those of his/her immediate supervisor. Each specialist, when designated, must supervise and assist in training other specialists as appropriate.

2–2–3. POSITION RESPONSIBILITY

a. Air traffic managers must ensure that only one certified air traffic controller is signed on and responsible for each open position, to include consolidated positions, at any given time. At the ATCSCC, the national traffic management officer (NTMO), national traffic management specialist–in–charge (NTMSIC), and national traffic management specialist (NTMS) work as a team in order to accomplish the traffic management goals of an entire operational area. Due to the management functionality involved in overseeing the NAS, more than one NTMO, NTMSIC, and/or NTMS can be signed on and responsible for an open and/or consolidated control position.

NOTE–
When a developmental and an instructor are both signed on at a position, the instructor is responsible for all activity at that position.

b. Anytime an operational area is operated with one air traffic control specialist (ATCS), the following procedure must be followed: Prior to leaving the operational area, for any reason, the ATCS must advise all applicable facilities (tower, approach control, and/or center) that they are leaving the operational area and must advise the same facility/facilities upon return. Leaving the operational area should only be done during periods when the controller is not responsible for any aircraft.

2–2–4. DUTY FAMILIARIZATION AND THE TRANSFER OF POSITION RESPONSIBILITY

a. Air traffic managers must determine which sectors or positions require “duty familiarization” for each shift and must provide a facility directive which specifies all sources of operational information which must be read and/or discussed as a part of the familiarization. Familiarizations should be scheduled within an 8–hour shift to the extent possible.

b. Air traffic managers must determine which sectors or positions must maintain operational continuity through a transfer of position responsibility and must:

1. Review each sector or position and provide a tailored checklist which lists the equipment and the operational conditions which are likely to be a factor at that position. Checklists must be reviewed annually to ensure the sector/position checklist items are current.

(a) Items which should be included on the checklist, if relevant, are:

(1) STATUS INFORMATION AREA/S.

(2) EQUIPMENT: NAVAIDs, Radar(s), Radios, Automated Weather Observing Systems, etc.

(3) AIRPORT CONDITIONS/STATUS.

(4) AIRPORT ACTIVITIES; e.g., snow removal, vehicles on runway, etc.

(5) ALTIMETER/TRENDS.

(6) WEATHER/TRENDS.

(7) FLOW CONTROL.

(8) SPECIAL ACTIVITIES; e.g., restricted/warning areas in use, airshows, flight checks, new procedures, etc.

(9) SPECIAL INSTRUCTIONS/ RESTRICTIONS; e.g., due to adjacent position training, nonstandard staffing/configuration, etc.

(10) STAFFING.

(11) TRAINING IN PROGRESS.

(12) VERBALLY STATE RUNWAY STATUS; unavailable, closed, occupied.

(13) PERTINENT OPERATIONAL NOTAMs, UNLESS PREVIOUSLY COVERED.

NOTE–
Air traffic managers at facilities equipped with automated NOTAM systems must designate those systems as the primary source of NOTAM information.

(14) Non–RVSM aircraft operations.

(15) COMMUNICATION STATUS and TRAFFIC.

(b) The checklist for a specific position need not include those items which are incorporated into the Status Information Area/s used by that position.

(c) Status Information Area/s (SIA), when available, must be the first item listed on the position checklist.

(d) When traffic is included on the position checklist, it must be the last item listed. When relevant to the position, include the following sub–items under the traffic heading so that they will not be inadvertently overlooked:

(1) Special Activity Aircraft; e.g., aircraft operating in a special use area/airspace, helicopters on prescribed routes, etc.

(2) Point out aircraft.

(3) Holding aircraft.

(4) Primary targets with no associated alphanumerics.

(5) Aircraft handed off but still in the airspace.

(6) Aircraft released but not yet airborne.

(7) Nonradar operations.

(8) VFR advisory aircraft.

(9) Aircraft standing by for service.

(10) Coordination agreements with other positions.

(11) Special problems, requests, or instructions.

(e) Air traffic managers may *increase* the number of items and/or the level of detail of the position relief checklists as they deem necessary.

2. To the extent possible, provide a SIA/s from which specialists may obtain the operational information relevant to the position being worked. The SIA/s may consist of a single or any combination of informational sources where status information can be recorded and displayed. These areas may include, but not be limited to, facility/area/position status boards, weather status boards, “hot item” binders, clip board information sheets, and designated areas for written notes.

3. Designate, through a facility directive, the position/s having responsibility for the accuracy of the various items contained on the SIA/s. The designated position/s should be the focal point for the type of status information for which they are responsible and, except for the accuracy of written notes located at the position, should not be a specialist having primary and direct responsibility for the provision of service or separation to aircraft.

c. To the maximum extent practicable the position relief briefing must be recorded.

d. Specialists manning the positions identified under subpara 2–2–4b, requiring the maintenance of operational continuity, must conduct a position relief briefing in accordance with FAAO JO 7110.65, Air Traffic Control, Appendix D, Standard Operating Practice (SOP) for the Transfer of Position Responsibility, or FAAO JO 7110.10, Flight Services, para 1–3–3, Duty Familiarization and Transfer of Position Responsibility.

e. Responsibilities:

1. The specialist being relieved must be responsible for ensuring that any pertinent status information of which he/she is aware is relayed to the relieving specialist and is either:

(a) Accurately displayed on the SIA/s for which he/she has responsibility, or

Section 6. Watch Supervision–Terminal/En Route

2–6–1. WATCH SUPERVISION

a. Watch supervision requires maintaining situational awareness (defined below) of traffic activity and operational conditions in order to provide timely assistance to specialists and that ensure available resources are deployed for optimal efficiency. Watch supervision may be performed by a manager, supervisor, or controller–in–charge (CIC). The objectives and tasks of watch supervision must be specified in a facility directive, which is focused on operational requirements. The directive must specify, as a minimum, the required tasks for maintaining a safe and efficient operation. These tasks must include, but are not limited to:

1. The requirement to provide guidance and goals for the shift.

2. Monitoring/managing traffic volume/flow.

3. Position assignments.

4. Position relief.

5. Training assignments.

6. Processing leave requests (e.g., leave approval).

7. Configuring/monitoring/reporting equipment status.

8. Data collection and reporting.

9. Monitoring presidential aircraft and reporting security requirements.

10. Situational awareness is defined as a continuous extraction of environmental information, integration of this information with previous knowledge to form a coherent mental picture, and the use of that picture in directing further perception and anticipating future events. Simply put, situational awareness means knowing what is going on around you.

11. Management of the operational environment with a goal toward eliminating distractions of:

(a) Non-operationally-related activities or tasks that are distracting, such as controller schedule or leave bidding.

(b) Non-operationally needed items and equipment.

(c) When activities or tasks that are not time critical or operationally necessary become distracting to the operation, watch supervision must take steps to defer or relocate these activities or tasks.

12. Administrative duties must not be accomplished to the detriment of any operational duty.

NOTE–
Individuals medically disqualified or taking medically disqualifying substances must not be assigned watch supervision duties, in accordance with para 2–8–6, Restricted Drugs.

b. In the role of watch supervision, a CIC must perform these duties in accordance with management direction, with the following exceptions:

1. Evaluating and counseling employees on their performance.

2. Recommending selections, promotions, awards, disciplinary actions, and separations.

3. Site Coordinator for drug or alcohol testing.

NOTE–
On–the–spotcorrections are not considered an evaluation of performance and are required as part of CIC duties.

2–6–2. WATCH SUPERVISION ASSIGNMENTS

a. Efficient air traffic services require watch supervision regardless of the number of people assigned. Facilities must establish local procedures for watch supervision assignments.

b. Where authorized, when two or more operations managers are assigned to the shift, one must be designated as the Operations Manager in Charge (OMIC). The OMIC is responsible for the day–to–day, shift by shift, management of the control room operation.

c. When two or more supervisory traffic management coordinators (STMC) are on duty, one must be assigned as supervisory traffic management coordinator–in–charge (STMCIC).

d. When two or more operations supervisory personnel are on duty in an operational area (for

example, radar room, tower, ARTCC area, etc.), one must be assigned as in charge.

NOTE–
These "in charge" personnel may be called OSIC, front line manager–in–charge (FLMIC), or other names designated by the facility manager.

e. When two or more specialists are on duty and no supervisory personnel are available, one specialist who is fully qualified and rated in the assigned operational area must be designated as CIC to perform the watch supervision duties.

NOTE–
In combined radar/tower facilities, when there's a tower CIC and TRACON CIC, one must be designated as the overall controller–in–charge (OCIC).

f. At facilities where a specialist stands a watch alone, the responsibility for watch supervision becomes part of his/her duties.

g. Personnel performing watch supervision duties may be required to perform operational duties in addition to watch supervision duties. The performance of operational duties should be done on a limited basis such as during periods of low activity.

h. An individual is considered available for watch supervision when he/she is physically present in the operational area and is able to perform the primary duties of the function. If the supervisor/CIC leaves the operational area or is engaged in an activity which will interfere with or preclude the performance of watch supervision duties, then another qualified individual must be designated to supervise the watch.

2–6–3. CONTROLLER–IN–CHARGE (CIC) DESIGNATION

a. Prior to being designated as a CIC, specialists must meet the following prerequisites:

1. Have been certified for 6 months in the area/facility CIC duties to be performed. (The Director of En Route and Oceanic Operations Area Office or Terminal Operations Service Area Office may issue a facility waiver for the 6 month requirement where a more immediate assignment is needed. Waivers to facilities will be for 1 year, with renewals based on the result of a yearly evaluation by the area office director.)

2. Be operationally current.

3. Be selected by the air traffic manager or his/her designee.

4. Successfully complete CIC training.

b. Specialists who have been designated as a CIC and subsequently transfer to another facility are not required to fulfill the requirement of subpara 2–6–3a1 at the new facility; however, they must meet all other prerequisites.

c. In facilities that use CICs to provide midwatch coverage, specialists that provide such coverage must be designated as a CIC only for the purpose of providing midwatch coverage upon facility/area certification and completion of the local CIC training course. Air traffic managers must ensure the local CIC training course is completed within 30 days of facility/area certification/rating.

NOTE–
In combined radar/tower facilities, specialists who are certified in the tower cab may be designated as CIC in the tower, provided all of the above prerequisites are met.

2–6–4. CONTROLLER–IN–CHARGE (CIC) SELECTION PROCESS

a. All eligible employees who meet the prerequisites of subparas 2–6–3a1 and 2 must be considered for selection as CIC. Air traffic managers, when determining facility requirements for CICs, must consider the following:

1. Facility operational needs.

2. Scheduling concerns.

3. Staffing concerns.

4. Special events.

5. Other issues.

b. When facility requirements are established, air traffic managers may designate a panel to forward recommendations for CIC candidates to the designated selecting official. A facility may have one recommendation panel for each area of specialization.

c. The recommendation panel must consider the following knowledge, skills, and abilities (KSA) in reviewing each candidate. These KSAs must include but are not limited to:

1. Problem solving and analytical ability.

2. Planning and organizing.

3. Decisiveness.

4. Judgement.

5. Communication skill.

6. Interpersonal skill.

d. The recommendation panel must forward its recommendations to the air traffic manager or his/her designee. Written feedback must be provided to the selecting official for all candidates not recommended including dissenting opinions.

e. Candidates who are not selected to be a CIC, upon request, must be advised of the reasons for nonselection. If applicable, specific areas the employee needs to improve must be identified. Employees may request assistance from their immediate supervisor in developing options to improve the identified areas.

NOTE–
These provisions do not apply to midwatch CIC coverage.

2–6–5. CONSOLIDATING POSITIONS

a. Assign personnel to positions as required by activity, equipment, and facility function. Positions may be consolidated in consideration of activity and the qualifications of the personnel involved.

b. To the extent staffing resources permit, and where the position is established, the tower associate (local assist) position must be staffed. This position is considered essential to the operational integrity and safety levels required to minimize the potential for surface errors and land-over incidents. Nonlocal control functions must not be consolidated/combined at the local control position except during periods of significantly reduced traffic levels.

c. When conducting line up and wait (LUAW) operations, local control position must not be consolidated/combined with any other non–local control position.

REFERENCE–
FAAO JO 7210.3, Para 10–3–8, Line Up and Wait (LUAW) Operations

2–6–6. RELIEF PERIODS

a. Personnel performing watch supervision duties are responsible for ensuring that breaks are administered in an equitable manner and applied so as to promote the efficiency of the agency. They are also responsible for ensuring that breaks are of a reasonable duration.

b. Personnel performing watch supervision duties are responsible for knowing the whereabouts of employees to ensure their availability for position assignments.

c. Personnel performing watch supervision duties must not condone or permit individuals to sleep during any period duties are assigned. Any such instance must be handled in accordance with applicable Agency policy and the applicable collective bargaining agreement.

2–6–7. BASIC WATCH SCHEDULE

a. Facility watch schedules must take into account normal traffic flow, thereby permitting the posting of a continuing schedule for an indefinite period of time. Facility management is responsible for ensuring watch schedules are in accordance with collective bargaining agreements.

b. Air traffic control specialists whose primary duties are those directly related to the control and separation of aircraft must meet the following criteria:

1. Do not work more than 10 operational hours in a shift.

2. Hours worked before a shift, whether operational or not, will count as operational hours.

3. All work beyond 10 hours must be nonoperational.

4. Have at least an 8–hour break from the time work ends to the start of any shift, except as follows:

(a) Employees are required to have a minimum of 9 consecutive hours off duty preceding the start of a day shift. For purposes of this paragraph only, a day shift is generally defined as a shift where the majority of hours fall between 7:00 a.m. and 4:00 p.m.

(b) This requirement applies to all shift changes, swaps, and overtime to include scheduled, call–in, and holdover assignments.

5. Have an off–duty period of at least 12 hours following a midnight shift. (A midnight shift is defined as a shift in which the majority of hours are worked between 10:30 p.m. and 6:30 a.m.)

6. If an employee is assigned more than two (2) consecutive ten (10) hour midnight shifts, all of the consecutive ten (10) hour midnight shifts require a 2100L (Non flex) start time.

7. Ten (10) hour midnight shifts are limited to no more than four (4) in any six (6) day period.

8. No day shift may immediately precede a ten (10) hour midnight shift.

9. Eight (8) hour midnight shifts may be extended by no more than one (1) hour per single shift.

10. A 0530L start time or later is required when working an eight (8) hour day shift prior to an eight (8) hour midnight shift. Employees may not flex to an earlier start time than 0530L.

11. Do not work more than six shifts without taking a regular day off.

12. Authorized leave, compensatory time used, and credit hours used are considered hours of work.

13. These criteria apply to shift adjustments, including the exchange of shifts and/or days off and the change of shifts and/or days off.

2–6–8. OVERTIME DUTY

Facility air traffic managers must ensure that overtime duty is equitably distributed among all eligible employees who desire it. Retain overtime duty records for 12 months.

2–6–9. HOLIDAY STAFFING

a. Facility Air Traffic Managers must ensure that the scheduled staffing is adjusted on holidays to a level consistent with the anticipated workload. Application of this policy is not intended to result in a standardized holiday staffing schedule for all holidays. Holiday staffing schedules may vary for individual holidays since the traffic in a particular area cannot always be expected to be the same for each holiday.

b. Prior to establishing work schedules for a Federal holiday, facility air traffic managers must:

1. Consider the previous year's traffic statistics for each holiday.

2. Check, as appropriate, with local sources (Air National Guard, USN, USAF Reserves, local flying schools, fixed base operators, etc.), for information concerning anticipated activity.

2–6–10. ADMINISTRATIVE HOURS OF DUTY

Hours of duty of facility air traffic managers and administrative staffs should conform with the duty hours of their respective service area office.

2–6–11. FACILITY COMPLEMENTS

Facility air traffic managers will be currently informed by the service area office of their authorized facility personnel complements. The authorized complement will always be the end–of–year employment ceiling authorization. Circumstances may result in the establishment of a complement different from that provided in workload formulas.

2–6–12. CONSOLIDATING TOWER/TRACON FUNCTIONS

a. At facilities where both tower and radar/non-radar approach control services are provided, the air traffic manager must ensure, to the maximum extent possible, that these functions are not consolidated during non–midwatch operations unless unforeseen circumstances or emergency situations arise which would preclude compliance with this paragraph.

b. During midwatch operations (where the majority of hours fall between 10:30 p.m. and 6:30 a.m.) when traffic permits, all functions may be consolidated for meals or breaks.

c. Air traffic managers must ensure that no less than two fully-certified and current operational personnel are assigned to midnight shift, unless no such personnel are available for assignment.

2–6–13. SINGLE PERSON MIDNIGHT OPERATIONS

a. In order to ensure that a receiving controller is prepared to accept an aircraft, coordination between facilities/operational areas must be accomplished either manually via landline, or positively acknowledged via automation, (for example, acceptance of the handoff by keystroke entry), when an operational area is operated with one ATCS between the hours of 0000L to 0500L.

1. Coordination procedures during the time period defined in paragraph a can be suspended during

periods of increased of traffic. An increase of traffic may include, but is not limited to, the following:

(a) Late night SWAP events.

(b) Military movement/exercises.

(c) Multiple arrivals/departures in a short period of time.

2. The coordination procedures do not supersede existing requirements in FAA Order JO 7110.65.

3. Facilities must have local procedures to be used during the hours identified above. Such procedures are to be placed into local SOP or LOAs between facilities.

NOTE–
Automated coordination cannot be hand-offs that do not include human interaction.

b. In the event there is no response from the facility/operational area with which coordination is attempted, immediate action must be taken to determine the status of the unresponsive controller and begin appropriate notification.

c. When operations permit, it is expected that functions will be consolidated to facilitate breaks in up/down facilities during midnight shifts.

Section 9. Weather/Visibility

2–9–1. BACKUP/AUGMENTATION OF WEATHER OBSERVATIONS

a. Facilities where air traffic personnel provide backup/augmentation of automated weather observations, or take manual observations, must use FAAO 7900.5, Surface Weather Observing–METAR, as the basic source of guidance for completion of observations.

b. In an automated weather environment, elements of automated weather observations may be used for operational purposes (i.e., wind and altimeter).

c. Specialists responsible for providing backup/augmentation of automated weather observations, or manual observations, must be certified by the National Weather Service (NWS).

REFERENCE–
FAAO JO 7210.3, Para 14–1–2, Certificates of Authority.

2–9–2. RECEIPT AND DISSEMINATION OF WEATHER OBSERVATIONS

a. Facility air traffic managers must establish a means by which the receipt of weather observations are immediately known to facility personnel responsible for dissemination to other facility functions and that these functions are made aware of changes as they are posted. In addition, facility managers must establish procedures through the facility SOP that will ensure all positions of operation receive and acknowledge any change in reportable visibility value when the tower has the responsibility for visibility reporting. This may be accomplished by means of an alerting device, location of weather receiving equipment at positions so that any change of data is recognized, or any other means which may be best suited to the facility work environment.

b. To the extent possible, facility air traffic managers must establish procedures to acknowledge receipt of weather observations. Where possible, establish an agreement with the appropriate weather source to share the responsibility for ensuring the receipt of the observation. Automated Surface Observing System(s) (ASOS), Automated Weather Observing System(s) (AWOS), and Automatic Weather Information System (AWIS) locations are not required to acknowledge receipt of observations.

c. The addition or deletion of a weather reporting location must be coordinated through the appropriate Service Area office, for forwarding to System Safety and Procedures. System Safety and Procedures must initiate the required actions for additions and/or deletions to the national data base. When adding new weather reporting locations, include a statement that:

1. An aviation requirement exists.

2. The observers are/have been certified by the NWS.

3. No other observation exists in the surface area, if applicable.

4. Identifies the hours that the data will be available if less than 24 hours, i.e., 0800Z–2300Z.

5. Identify what facility will be responsible for observation entry into the system.

d. AWOS towers with LAWRS certified controllers should use the AWOS operator interface device (OID) to generate a manual hourly METAR/SPECI observation. If AWOS is able to provide METAR/SPECI observations (for example, FAA AWOS–C) and allows augmentation and backup entries, the AWOS may be used the same as ASOS/Automated Weather Sensor System (AWSS).

2–9–3. LIMITED AVIATION WEATHER REPORTING STATION (LAWRS) HOURS OF OPERATION

Facility air traffic mangers must submit to System Operations Airspace and Aeronautical Information Management office the hours of operation with the date that the facility commences participation in the LAWRS program and any changes thereafter in the hours of participation.

2–9–4. NONAVIATION WEATHER SERVICE

Facilities must not enter into agreements with any person or office, including fixed–base operators, to provide weather data for property protection purposes. The FAA must not be responsible for providing weather information unless it is directly related to the actual or intended operation of aircraft.

Personnel must not encourage nor solicit non–aviation weather activity. Refer requests for this type of weather information to the nearest WSO.

2–9–5. NATIONAL WEATHER RECORDS CENTER

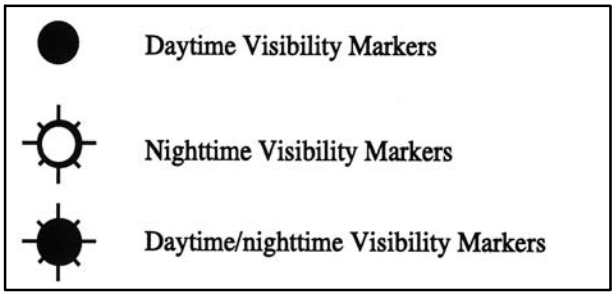
Refer requests for surface weather observations from non–aviation sources; e.g., requests from insurance companies for weather data relative to storm damage, to the National Weather Records Center, Environmental Data Service, Federal Building, Asheville, N.C., 28801.

2–9–6. VISIBILITY CHARTS

a. Where facilities provide backup/augmentation of automated weather observations, or manual observations, the facility air traffic manager will select a designee that will prepare and maintain visibility charts in accordance with the following:

1. Prepare a chart(s) or list(s) for daytime and nighttime visibility markers. At local discretion, visibility markers may be depicted on separate daytime and nighttime charts or on a daytime/nighttime combination chart. Panoramic photographs marked with distances and cardinal compass points may also be used.

2. Daytime/Nighttime combination charts must use the following legend for each marker:



3. Each marker used must be identified and its distance from the observation point noted. Include the height of the marker if it is for estimating heights of clouds and obscuring phenomena.

4. Mapping programs, aircraft/vehicles, GPS and/or surveying equipment are all valid methods to develop visibility charts.

b. The air traffic manager must conduct an annual review and approve the visibility charts, lists, or photos to ensure their accuracy.

2–9–7. SITING CRITERIA FOR VISUAL WEATHER OBSERVATIONS

To give a proper indication of weather conditions in the areas of aircraft approaches, landings, and takeoffs, the site from which visual weather observations are made should ideally be the Airport Reference Point (ARP). If this is not practical, the site must be as close to the ARP as practical. Except in unusual circumstances, it should be no more than 2 miles from that point. The site must also have an essentially unobstructed view of:

a. The most frequently used instrument runway and its final approach area; and

b. At least half of each quadrant of the natural horizon.

2–9–8. RUNWAY VISUAL VALUE (RVV) AND RUNWAY VISUAL RANGE (RVR) EQUIPMENT

a. FAA is responsible for checking and determining the operational status of RVV/RVR systems. Air traffic personnel must report all actual or suspect RVV/RVR malfunctions to Technical Operations Control Center personnel who are responsible for:

1. All checks and adjustments to the RVV/RVR systems.

2. Determining the operational usability of all portions of the systems in accordance with applicable performance criteria in FAAO JO 6560.8, Maintenance of Runway Visual Range (RVR) Equipment, or other appropriate RVR equipment instruction books.

3. Reporting immediately to authorized visibility observing personnel obvious error between information derived from the system and actual observed visibility conditions at the transmissometer site.

NOTE–
Technical Operations personnel are not visibility observers. However, obvious errors or differences which are easily apparent to them will be reported to the visibility observer and the instrument–derived information should not be used.

b. Air traffic personnel must also:

1. Verify accuracy with other displays in the facility when any meter and/or readout malfunction

is suspected. Upon determining that at least one display is operating properly, accomplish internal coordination to disseminate the current correct reading to all operating positions needing the information.

2. Notify the local weather observing facility immediately when malfunctioning of all airport traffic control tower (ATCT) and terminal radar approach control (TRACON) displays for the runway of concern is indicated or suspected. Upon verification of malfunction, request the weather observing facility to furnish RVV or RVR values for that runway. During such conditions, weather observing personnel will relay RVV or RVR information to tower personnel as long as equipment at the weather observing facility is known to be operating correctly and, in the case of RVR, when the high intensity runway lights (HIRL) are on setting 3 or higher. RVR values provided during the malfunction will be based on a setting of 5 unless the control tower has specifically requested data for a lower light setting. The weather observing facility will provide the RVR or RVV at the time of notification that the traffic control facility readouts are inoperative. It will also provide notification as soon as possible when the values decrease to become equal to or less than, or increase to equal or exceed:

(a) RVV $^1/_2$ mile or RVR 2,400 feet.

(b) The lowest authorized landing minimum for the runway of concern.

2–9–9. SPECIFIC AREA MESSAGE ENCODING (SAME) WEATHER RADIOS

TERMINAL

SAME Radios must only be used to provide weather information for occupants of Terminal facilities. This equipment is not certified for the purpose of providing weather or any other aviation–related information and therefore must not be used for any aviation–related purpose.

a. SAME Radios must not be used in lieu of pre–existing emergency evacuation procedures or FAA certified sources of aviation related weather data.

b. SAME Radios must only be programmed for the specific county/territory of the facility.

c. The following must be affixed to the SAME Weather Radio so as to be visible: “This equipment is not certified for the purpose of providing weather or any other aviation–related information and therefore must not be used for any aviation–related purpose.”

Section 7. Video Maps

3–7–1. TOLERANCE FOR RADAR FIX ACCURACY

Careful attention must be given during commissioning flight checks of a radar to the accuracy of digital maps, video map plates, or overlays to ensure that the plate or overlay markings meet specified requirements relative to permanent targets. In actual practice an aircraft's displayed position can be slightly in error with respect to its geographic position and still meet the requirements of FAAO 8200.1, United States Standard Flight Inspection Manual.

3–7–2. RADAR MAPPING STANDARDS

The minimum radar mapping capability required for commissioning radar services is one of the following:

a. Dual video mapper.

b. Adequate map overlay.

c. Single video mapper plus a map overlay.

d. AN/GPA–70 at USAF installations.

e. AN/GPA–91 at Navy installations.

f. Computer–generated displays.

NOTE–
Grease pencil markings, plastic tape, compass rose grid lines, range marks, or other innovations must not be used in lieu of an adequate digital map, map overlay, or video map.

3–7–3. DISPLAY MAP DATA

To reduce scope clutter and increase operational efficiency, limit data on display maps to the following (except for subparagraph o, facility air traffic managers may delete items not required):

a. Airports/heliports.

b. Runway centerline extension and/or final approach course.

REFERENCE–
FAAO JO 7110.65, Para 5–9–1, Vectors to Final Approach Course.

c. Hospital emergency landing areas.

d. NAVAIDs and fixes.

e. Reporting points.

f. Airway/route centerlines.

g. Boundaries (control, special use areas, terminal buffer areas, outer fix holding pattern airspace areas, no transgression zones, etc.).

h. Handoff points.

i. Special use tracks (scramble, recovery, Instrument Departures, etc.).

j. Obstructions.

k. Prominent geographic features (islands, mountains, etc.).

l. Map alignment indicators.

m. Range accuracy marks.

n. Minimum vectoring altitudes in hundreds of feet; e.g., 23–2,300 ft., 100–10,000 ft.

o. Airports immediately outside your area of jurisdiction that are:

1. Within airspace used to receive radar handoffs; and

2. Depicted by the facility having jurisdiction over that airspace.

p. For sites equipped with STARS, facility air traffic managers must specify in a facility directive procedures for using optional maps.

q. Virtual intersection markings for non-intersecting converging runways if the flight paths intersect within 1NM beyond the departure end of both runways.

NOTE–
The intent of subparagraph o is to assist controllers in making emergency airport recommendations when inflight emergencies occur near facility boundaries. There is no intent to establish criteria for airport depiction. However, insofar as facilities having jurisdiction depict airports, then those same airports must be depicted on the adjacent facility's video map.

REFERENCE–
FAAO JO 7110.65, Para 10–2–15, Emergency Airport Recommendation.

3–7–4. INTENSITY

Set the intensity of the video map and the range marks on the CTRD equipment at the minimum intensity that will provide the controller with the necessary

information. Supervisory personnel must ensure that a usable intensity is maintained.

3–7–5. COMMON REFERENCE POINTS

Facility air traffic managers must ensure the adequacy of common reference points on radar maps where such points are used in providing air traffic control services; e.g., handoff points, etc., between adjacent facilities or between sectors within the facilities using different radar systems. Whenever possible, simultaneous flight checks should be conducted of these radar systems. FAAO 8200.1, United States Standard Flight Inspection Manual, must be used in determining the appropriate tolerances.

Section 8. Other Displays

3–8–1. MINIMUM VECTORING ALTITUDE CHARTS (MVAC) FOR FACILITIES PROVIDING TERMINAL APPROACH CONTROL SERVICES

Air traffic managers must determine the location and the method for the display of vectoring altitude charts to provide controllers with the minimum vectoring altitudes as follows:

a. Where the system is configured to display single radar sensors, provide:

1. An MVAC that accommodates the largest separation minima of all available sensors; or

2. Unique MVACs that accommodate the appropriate separation minima of each available sensor.

b. Where the system is configured to simultaneously display multiple radar sensors, provide an MVAC that accommodates the largest separation minima of all available sensors; or

c. Where the system is utilizing FUSION mode, develop an MVAC that provides:

1. Three-mile separation minima or more from obstacles, except when applying the provision in paragraph 3-8-1c2. The MVAC must depict obstacle clearances, outward to the lateral limits of the associated approach control airspace and an appropriate buffer outside the lateral approach control airspace boundaries. As a minimum, this may be accomplished by using the existing single-sensor MVAC for the predominant radar sensor; and

2. Five–mile separation minima from obstacles for use whenever the FUSION system cannot provide 3–mile separation due to degraded status or system limitations.

d. At locations adding FUSION, provided the facility uses existing MVA charts with 3–mile buffers and an MVAC with 5–mile buffers, additional charts do not need to be developed to support FUSION.

NOTE–
Mission Support Services–Aeronautical Products, ATC Products Group should be contacted if assistance is required. (See FAAO 8260.3, United States Standard for Terminal Instrument Procedures (TERPS) Chapter 10.)

REFERENCE–
FAAO JO 7110.65, Para 5–5–4, Minima.

3–8–2. MINIMUM VECTORING ALTITUDE CHARTS (MVAC) PREPARATION (TERMINAL/MEARTS)

Prepare a vectoring chart in accordance with the criteria contained in FAA Order 8260.3, United States Standard for Terminal Instrument Procedures (TERPS).

a. MVACs must be developed and maintained using the Sector Design and Analysis Tool (SDAT). Facility Managers may request assistance in the development and maintenance of their MVAC or request SDAT user support by soliciting the Mission Support Services, Geographic Services Group. MVACs developed in SDAT properly apply obstruction clearance criteria required by FAA Order 8260.3. SDAT completes FAA Form 7210-9 and automatically creates and sends the necessary data files to Mission Support Services, ATC Products Group upon certification for subsequent radar video map creation. Facility correspondence to ATC Products regarding MVACs and video maps must be accomplished via email to 9-AJV-HQ-ATCPRODUCTS.

NOTE–
MVAs are established without considering the flight–checked radar coverage in the sector concerned. They are based on obstruction clearance criteria and controlled airspace only. It is the responsibility of the controller to determine that a target return is adequate for radar control purposes.

b. At a minimum, the airspace considered for providing obstacle clearance information on MVA charts must accommodate the facility's delegated area of control as well as adjacent airspace where control responsibility is assumed because of early handoff or track initiation.

c. MVACs may be subdivided into sectors to gain relief from obstacles that are clear of the area in which flight is to be conducted. There is no prescribed limit on the size, shape, or orientation of the sectors.

d. Depict the sectors in relationship to true north from the antenna site.

e. Facility requests for reduced required obstruction clearance (ROC) in an area designated as

mountainous in accordance with 14 CFR, Part 95, Subpart B, must conform to the following procedures:

1. Designated mountainous terrain must be evaluated for precipitous terrain characteristics and the associated negative effects. Facility managers must use FAA Order 8260.3, paragraph 1720, as a guide when considering ROC reductions in designated mountainous areas. ROC reductions are not authorized where negative effects of precipitous terrain are documented or known having followed the process contained in subparas e2 and 3 below. ROC reductions within designated mountainous areas are only authorized by complying with at least one of the following criteria:

REFERENCE–
FAA Order 8260.3, Appendix 1, Glossary Term, Precipitous Terrain.

(a) Where lower altitudes are required to achieve compatibility with terminal routes.

(b) To permit vectoring within the airport radar traffic pattern area for either a departure procedure, an instrument approach procedure, or a visual approach to an airport. Air traffic managers must define each airport's radar traffic pattern area for which ROC reductions are sought. These areas must include sufficient maneuvering airspace necessary for ATC sequencing and spacing of traffic in the vicinity of an airport.

2. Where mountainous terrain has been deemed precipitous by the air traffic facility, each ROC reduction request must include a query to an independent data source, such as NASA's Aviation Safety Reporting System to determine if any ground proximity warnings have been reported in the subject area. After completing the query, consider the facility's history and experiences with turbulence at the minimum altitude requested. Avoid ROC reductions where reported ground proximity warnings relate to both existing MVA sector altitude ROC reductions and rapid terrain elevation changes. ROC reduction requests in these areas may require additional evaluation and review.

REFERENCE–
FAA Order 8260.3, Appendix 1, Glossary Term, Precipitous Terrain.

3. The facility MVAC package must include a detailed account of the steps taken by the facility to determine if the sector will qualify for taking a ROC reduction in the sector. This data will be reviewed by the Service Center Operations Support Group (OSG) and the ATC Products Group personnel for ROC reduction approval. Service Center Operations Support personnel must be the approving authority for ROC reduction criteria compliance with paragraph e1(a) and (b) above. Previously approved reductions in ROC justifications must be resubmitted for approval during a facility's recurring certification process.

NOTE–
Should a ROC reduction request be denied by Service Center Operations Support personnel, the manager may appeal the decision to Terminal Safety and Operations Support for review.

4. In the advent of the development of an automated precipitous terrain algorithm certified by AFS, the automated method will be used in lieu of the manual method described above.

5. Ensure MVA areas submitted for ROC reductions do not cover large geographical areas that include locations that would not, individually, meet ROC reduction standards. In such cases, the ATC Products Group may work with the Service Center and the facility to design a sector that will pass the approval process for a particular approach/departure route.

6. Whenever a ROC reduction is taken, the rationale/justification for taking the ROC reduction as defined in subparagraph e1 must be included in the MVAC package by facility managers.

7. ROC reductions should only be requested when there is a demonstrated operational need.

f. An assumed adverse obstacle (AAO) additive is required in areas not designated as mountainous (ROC 1,000 feet) and in designated mountainous terrain areas when any ROC reduction is requested.

g. Resultant MVAs may be rounded down to the nearest 100-foot increment (those that are xx49 feet or less), except in the following cases:

1. Any locations outside of the Contiguous United States.

2. Where any part of an MVA Sector is more than 65 NM from the issued altimeter source.

3. When all of the following conditions are applicable:

(a) the MVA Sector is within designated mountainous areas by 14 CFR Part 95,

(b) the terrain is deemed precipitous by facility Air Traffic Management,

(c) the previous 5 year average low temperature at the primary airport is documented to be less than the temperature shown in Table 3-8-1 for the amount of ROC reduction requested. Retain temperature documentation locally with approved 7210-9. Use Table 3-8-1 to determine the extent of mountainous terrain reduction permitted if rounding down, based on the average low temperature. Comply with the following process to determine the average low temperature.

(1) Go to the National Climatic Data Center web site at www.NCDC.noaa.gov.

(2) Click on "Data Access" link on blue bar.

(3) Click on "Land-Based Stations" on left column, then click "Climate Data Online."

(4) Click on "Search Tool" link.

(5) On the Search form, select Annual Summaries, and accept default fields, then enter primary airport identifier.

(6) Click on "Airport Name" on left side of page.

(7) Scroll to bottom of page and select the year for review.

(8) Select each relevant year, and document the Lowest Temperature for the year. This is the EMNT column, on the bottom row. Then calculate the 5−year average.

** Do not select Add to cart. All data is free if the internet proxy is set to AWA or AMC.

TBL 3−8−1

ROC Reduction/Temperature Table

Requested ROC Reduction	Minimum Average Low Temperature
100'	-40°C/-40°F
200'	-35°C/-31°F
300'	-30°C/-22°F
400'	-25°C/-13°F
500'	-20°C/-4°F
600'	-15°C/5°F
700'	-10°C/14°F
800'	-5°C/23°F
900'	0°C/32°F
1000'	7°C/45°F(2°C/36°F when MVA sector is within 35 NM of issued altimeter)

h. Managers requesting to waive criteria contained in FAA Order 8260.3, must submit FAA Form 8260-1, Flight Procedures/Standards Waiver in conjunction with the MVA project. This waiver form will contain the criteria requested to be waived, with the operational need fully explained, and examples of how the facility will achieve an equivalent level of safety, if approved. The package will be sent to the ATC Products Group through the Service Center OSG. Upon completion of the ATC Products Group review, the package will be forwarded to the Flight Procedure Implementation and Oversight Branch. For the Flight Standards Waiver process, facility managers do not need to complete a Safety Management System evaluation. An electronic copy of the completed waiver package must be sent to Operations Headquarters Directorate, AJT-2, at 9-AJT-2-HQ-AirTrafficOperations.

i. MVAs must not be below the floor of controlled airspace and should provide a 300−ft buffer above the floor of controlled airspace. In some cases, this application will result in an exceptionally high MVA (for example, in areas where the floor of controlled airspace is 14,500 MSL). When operationally required to vector aircraft in underlying Class G (uncontrolled) airspace, 2 MVAs may be established. The primary MVA must be based on obstruction clearance and the floor of controlled airspace. A second, lower MVA that provides obstruction clearance only may be established. The obstruction clearance MVA must be uniquely identified; for example, by an asterisk (*). Do not consider buffer areas for controlled airspace evaluations.

j. If new charts prepared using SDAT create a significant impact on a facility's operation, the impact must be coordinated with Operations Headquarters Directorate, AJT-2, for joint coordination with System Operations.

NOTE−
Significant impacts include changes to flight tracks for turbine−powered aircraft, multiple losses of cardinal altitudes, and/or reductions in airport arrival/departure rates.

k. Air traffic managers may request to merge adjoining, like altitude MVA sectors that resulted from using differing design criteria provided the merged sectors are identified in the remarks on FAA Form 7210−9 and a statement is included with each affected sector that the merged sectors are for Radar Video Map (RVM) presentation only; for example,

Sector B, B1, and B2 are to be merged in SDAT shape files for RVM presentation only.

l. Air traffic managers must submit the request for MVACs to the appropriate Service Center OSG for review. The Service Center OSG must then forward the requested MVAC to the ATC Products Group for processing.

m. Each request must indicate the MVAC was accomplished in SDAT, stored in the SDAT repository and when necessary, include a statement regarding the issued altimeter settings being within 65 NM of a rounded down sector and/or provides the 5−year average cold temperature.

n. Each request must include the SDAT generated Form 7210-9 with the manager's signature and point of contact at the submitting facility. Form 7210-9 must also be an electronic copy with the manager's signature, and imported into the MVA project file. When applicable, each Form 7210-9 must include explanations/justifications for ROC reduction requests. The MVA request with the 7210-9 will be electronically forwarded to the OSG. When the capability of electronic signatures is developed within SDAT, Form 7210-9 may be transmitted electronically between the facility, Service Center, and ATC Products Group in lieu of the paper process. SDAT will automatically store the approved MVAC package in the National Airspace System Resource (NASR).

o. All facilities must notify the SDAT program office personnel to complete the final submission step of the project within the repository when sending the MVAC request to the OSG.

p. When more than one chart is used, prepare those charts with the oldest review/certification date(s) first to help avoid lapses in annual review/certification requirements.

q. New charts that result in significant operational impacts must not be implemented by air traffic managers until associated changes to facility directives, letters of agreement, and controller training are completed within a period not to exceed 6−months from new chart certification.

r. Once a chart without significant operational impacts has been approved, it must be implemented as soon as possible. MVAC installations projected to be more than 60 days from date of approval must be coordinated with and approved by,the Service Center OSG.

s. Air traffic managers must ensure that MVACs are periodically reviewed for chart currency and simplicity and forwarded for certification to the ATC Products Group at least once every 2 years. Charts must be revised immediately when changes affecting MVAs occur.

3−8−3. ALTITUDE ASSIGNMENTS TO S/VFR AND VFR AIRCRAFT

Where procedures require altitude assignments to S/VFR and VFR aircraft less than the established IFR altitude or MVA, facility air traffic managers must determine the need and the method for displaying the appropriate minimum altitude information.

REFERENCE−
FAAO JO 7110.65, Para 7−5−4, Altitude Assignment.
FAAO JO 7110.65, Para 7−8−5, Altitude Assignments.

3−8−4. EMERGENCY OBSTRUCTION VIDEO MAP (EOVM)

a. An EOVM must be established at all terminal radar facilities that have designated mountainous areas as defined in 14 CFR Part 95, Subpart B, within their delegated area of control and an available channel in their video mappers. This map is intended to facilitate advisory service to an aircraft in an emergency situation in the event an appropriate terrain/obstacle clearance minimum altitude cannot be maintained. (See FIG 3-9-1.)

NOTE−
Appropriate terrain/obstacle clearance minimum altitudes may be defined as MIA, MEA, Minimum Obstruction Clearance Altitude (MOCA), or MVA.

b. Alternatives, such as combining existing maps, eliminating a lower priority map or, as a least desirable alternative, merging the EOVM with the MVA map, must be considered when necessary to accommodate the EOVM.

c. EOVM Use: The EOVM must be used and the advisory service provided only when a pilot has declared an emergency or a controller determines that an emergency condition exists or is imminent because of the inability of an aircraft to maintain the appropriate terrain/obstacle clearance minimum altitude/s.

d. EOVM Design:

1. The basic design of the EOVM must incorporate the following minimum features:

(a) Base contour lines of the mountains with the highest peak elevation of each depicted mountain plus 200 feet for natural low obstacle growth.

(b) Highest elevations of adjacent topography; e.g., valleys, canyons, plateaus, flatland, etc., plus 200 feet, or water.

(c) Prominent man–made obstacles; e.g., antennas, power plant chimneys, tall towers, etc., and their elevations.

(d) Satellite airports and other airports which could serve in an emergency.

(e) MVA if the EOVM must be merged with the MVA map for the former to be accommodated.

(f) Other information deemed essential by the facility.

NOTE–
To avoid clutter and facilitate maintenance, information depicted on the EOVM should be restricted to only that which is absolutely essential.

2. All elevations identified on the EOVM must be rounded up to the next 100–foot increment and expressed as MSL altitudes.

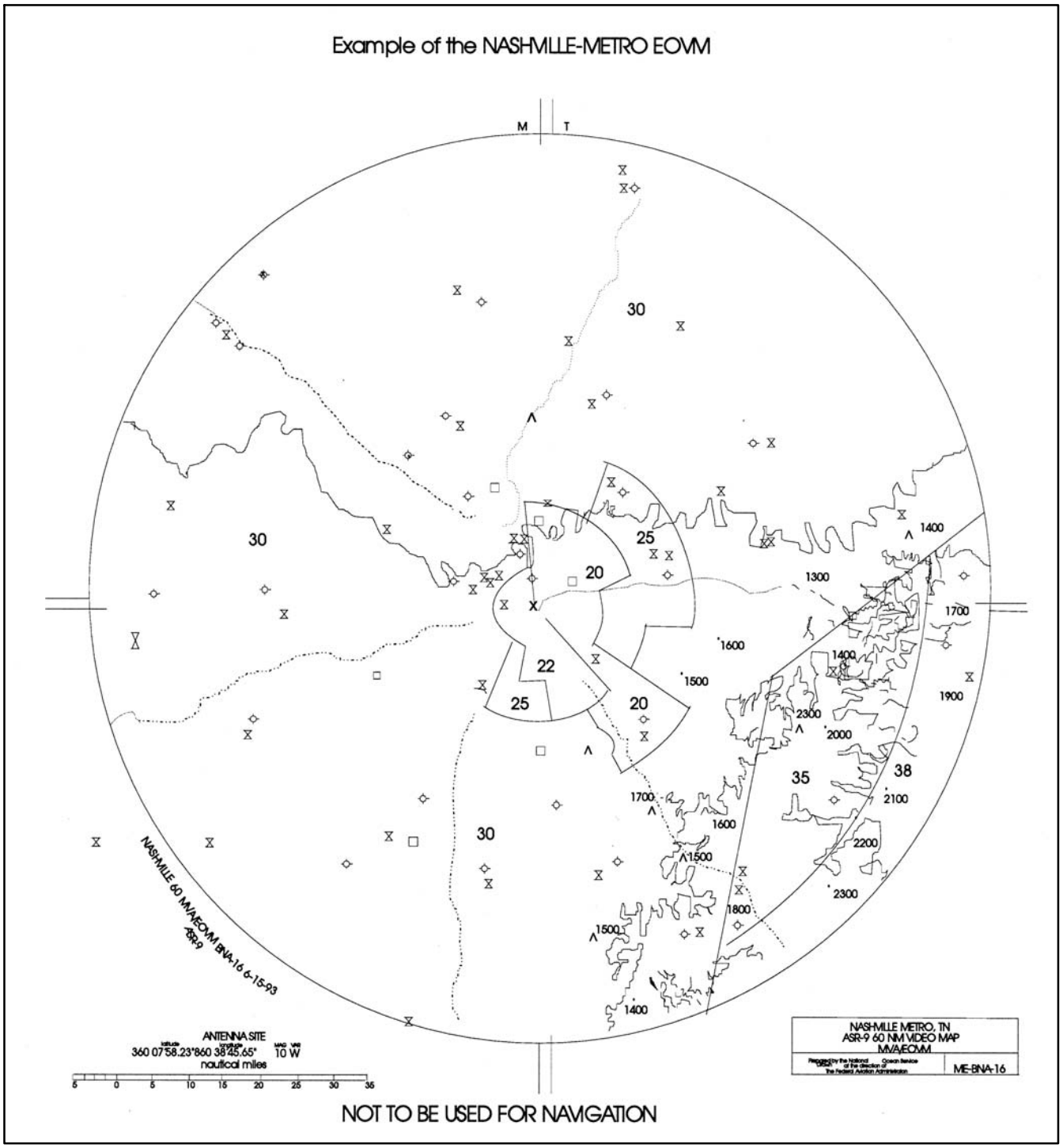
NOTE–
To avoid unnecessary map clutter, the last two digits are not required.

EXAMPLE–
2=200, 57=5700, 90=9000, 132=13200

e. EOVM Production: The preparation and procurement of the EOVM must be accomplished in accordance with FAAO 7910.1, Aeronautical Video Map Program.

f. EOVM Verification: The original EOVM procurement package must be checked for adequacy and then coordinated with the Mission Support Services, Terminal Procedures and Charting Group through the Service Area Operations Support Group, Flight Procedures Team (FPT) to verify the accuracy of its information. At least once every 2 years, the EOVM must be reviewed for adequacy and coordinated with the Terminal Procedures and Charting Group through the FPT for accuracy.

FIG 3–8–1
EOVM


Example of the NASHVILLE-METRO EOVM
M
T
30
30
25
20
22
25
20
30
1400
1300
1700
1600
1400
1500
1900
2300
2000
35
38
2100
1700
1600
2200
1500
2300
1800
1500
1400
NASHVILLE 60 MVA/EOVM BNA-16 6-15-93
ASR-9
ANTENNA SITE
360 07 58.23" 860 38 45.65"
nautical miles
10 W
5 0 5 10 15 20 25 30 35
NASHVILLE METRO, TN
ASR-9 60 NM VIDEO MAP
MVA/EOVM
ME-BNA-16
NOT TO BE USED FOR NAVIGATION

3–8–5. ESTABLISHING DIVERSE VECTOR AREA/S (DVA)

a. DVAs may be established at the request of the ATM and coordinated jointly with the appropriate Service Area OSG and Mission Support Services, Terminal Procedures and Charting Group for candidate airports within the facility's area of jurisdiction. DVAs should be considered when an obstacle(s) penetrates the airport's diverse departure obstacle clearance surface (OCS). The OCS is a 40:1 surface and is intended to protect the minimum climb gradient. If there are no obstacle penetrations of this surface, then standard takeoff minimums apply, obstacle clearance requirements are satisfied and free vectoring is permitted below the MVA. When the OCS is penetrated, the Terminal Procedures and Charting Group procedural designer will develop an obstacle departure procedure (ODP). An ODP may consist of obstacle notes, non–standard takeoff minimums, a specified departure route, a steeper than normal climb gradient, or any combination thereof. If an ODP is developed for a runway, it is a candidate for a DVA. The ATM should consider whether a DVA is desired and then consider if development would provide operational benefits exceeding existing practices. This is done after determining that sufficient radar coverage exists for any given airport with a published instrument approach. When established, reduced separation from obstacles, as provided for in TERPS diverse departure criteria, will be used to radar vector departing IFR aircraft below the MVA. To assist in determining if obstacles penetrate the 40:1 surface, ATMs may request the Terminal Procedures and Charting Group provide them with a graphic depiction of any departure penetrations in addition to completing the following steps:

1. If the location is listed in the Terminal Procedure Publication (TPP) index, check the take–off minimums and (Obstacle) Departure Procedures in section C of the TPP for the DVA runway. If nothing is listed, or only obstacle notes appear, then a DVA is not necessary. If a DP appears, development of a DVA becomes an option.

2. If the location is not listed, query the NFDC Web site at http://nfdc.faa.gov, and select the Special Procedures link to determine if a "special" instrument approach procedure exists at that airport/heliport. If there is a special procedure, the Regional Flight Standards All Weather Office (AWO) can supply FAA Form 8260–15A for ODP information when requested by the facility.

NOTE–
If the TPP or AWO indicates IFR departures N/A for any given runway, then a DVA is not authorized.

3. If the ATM elects to request a DVA, use the sample memorandum below as a guide (see FIG 3–9–2). Specify if the request is to establish, modify, or cancel a DVA. If modifying or canceling a DVA, attach the memorandum that authorizes the current DVA. The DVA request must include the following:

(a) Airport identifier.

(b) Desired DVA runway(s).

(c) Requested DVA method. Specify a range of operational headings by starting from the extreme left heading proceeding clockwise (CW) to the extreme right heading as viewed from the departure runway in the direction of departure (for example, Runway 36, 330 CW 030), or isolate a penetrating obstacle(s) by identifying that obstacle(s) either by DOF number or range/bearing from airport.

(d) Maximum Extent (Distance) from Departure Runway.

(e) Radar Type/Beacon Type. Provide whether the facility has an ASR–9 with Mode S beacon system.

(f) Facility Hours of Operation.

FIG 3–8–2
Sample DVA Memo

Federal Aviation Administration

Memorandum

Date: March 10, 2011

To: John Bickerstaff, Manager, Terminal Procedures and Charting Group, AJV-35
THRU: Mark Ward, Manager, Eastern Operations Support Group, AJV-E2

From: Steve Jones, Air Traffic Manager, XYZ TRACON

Prepared by: Joseph B. Specialist, Support Specialist

Subject: Diverse Vector Area (DVA) Request

XYZ TRACON requests the following DVA action as specified for the following airport(s) based on the information provided below:

ACTION	AIRPORT	RWY	REQUESTED DVA METHOD	DIST FROM RWY
			Range of Headings	
ESTABLISH	KABC	35R	320 CW 020	Within 18NM
			Range of Headings	
ESTABLISH	KABC	17L	140 CW 200	Within 20NM
			Isolate Penetrating Obstacle	
MODIFY	KXYZ	15	DOF 05-00234	
CANCEL	KDEF	22		

Radar Type/Beacon Type: ASR-8 with ATCBI-5

Hours of Operation: 0600-2300 local

POC is Joe Specialist, XYZ TRACON, 416-555-9988.

Attachments:
1. KXYZ DVA authorization memorandum dated October 28, 2008.
2. KDEF DVA authorization memorandum dated February, 16, 2009.

b. Forward DVA requests to the Terminal Procedures and Charting Group through the appropriate Service Area OSG Manager.

c. When a DVA is established, it will be documented and provided to the facility by the Terminal Procedures and Charting Group on FAA Form 8260–15D, Diverse Vector Area (DVA). The ATM must then prepare a facility directive describing procedures for radar vectoring IFR departures below the MVA including:

1. Textual or graphical description of the limits of each airport's DVA for each runway end.

2. Where required, specific radar routes, depicted on the radar display, where radar vectors are provided to aircraft below the MVA.

3. Free vectoring areas, in which random vectoring may be accomplished below the MVA.

d. IFR aircraft climbing within a DVA must not be assigned an altitude restriction below the MVA. When leaving the confines of the DVA, ensure the aircraft reaches the MVA or has reported leaving the altitude of the obstacle(s) for which the MVA was created, climbing to an altitude at least 1,000 feet above the obstacle.

e. Headings must not be assigned beyond those authorized by the DVA prior to reaching the MVA.

f. Ensure all controllers are familiar with the provisions of the facility directive before vectoring aircraft in accordance with DVA procedures.

Section 9. Reduced Vertical Separation Minimum (RVSM)

6–9–1. GENERAL

a. RVSM reduces the standard separation between FL290 and FL410 from 2,000 feet to 1,000 feet for those aircraft approved for operation within these altitude strata. The six additional altitudes provide the users fuel savings and operational efficiencies while providing ATC flexibility, mitigation of conflict points, enhanced sector throughput and reduced controller workload for air traffic control operations.

b. RVSM is applied in that airspace from FL290 through FL410 over the domestic United States, Alaska, the Gulf of Mexico where the FAA provides air traffic services, the San Juan FIR, across international borders with Canada and Mexico, and the Pacific and Atlantic Oceanic airspace controlled by the FAA. There are two forms of RVSM airspace:

1. RVSM Airspace. Use of the term RVSM airspace refers to the RVSM exclusive environment. Aircraft operating in this airspace must be RVSM approved.

NOTE–
1. *The following non–RVSM aircraft are exceptions to the exclusive RVSM airspace. However, access will be on a workload–permitting basis:*

a. *DOD aircraft.*

b. *DOD–certified aircraft operated by NASA (T38, F15, F18, WB57, S3, and U2 aircraft only).*

c. *MEDEVAC aircraft.*

d. *Aircraft being flown by manufacturers for development and certification.*

e. *Foreign State aircraft.*

2. *The following aircraft operating within oceanic airspace or transiting to/from oceanic airspace are excepted:*

a. *Aircraft being initially delivered to the State of Registry or Operator;*

b. *Aircraft that was formerly RVSM approved but has experienced an equipment failure and is being flown to a maintenance facility for repair in order to meet RVSM requirements and/or obtain approval;*

c. *Aircraft being utilized for mercy or humanitarian purposes;*

d. *Within the Oakland, Anchorage, and Arctic FIRs, an aircraft transporting a spare engine mounted under the wing.*

3. *Aircraft not approved for RVSM operations may transition through RVSM airspace to operate above or below.*

2. Transition Airspace. Airspace where both RVSM aircraft and non–RVSM aircraft may be accommodated at all altitudes and RVSM approval is not required. Transition airspace connects airspace wherein conventional separation is applied to RVSM airspace. One thousand feet vertical separation can only be applied between RVSM aircraft. Two thousand feet separation must be applied between non–RVSM aircraft or whenever one of the aircraft is non–RVSM.

c. Non–RVSM exception aircraft may access RVSM airspace in one of the following ways:

1. LOA: Complies with a Letter of Agreement (LOA) for operations within a single or adjacent ARTCCs.

2. File–and–Fly: Files a flight plan and makes the initial request to access RVSM airspace by requesting an ATC clearance.

d. Facilities with RVSM airspace must:

1. Provide guidance in the facility Standard Operating Procedures (SOP) for managing non–RVSM flights.

2. Where available, display the Center Monitor on the Traffic Situation Display (TSD) in each area and the Traffic Management Unit (TMU). This will aid in the coordination and decision making process for approving non–RVSM flights.

6–9–2. FACILITY MANAGER RESPONSIBILITIES

a. Ensure all facility directives are current to support RVSM.

b. Ensure all LOAs, SOPs, and Sector Position Binders are current to support RVSM.

c. Ensure airspace is continually reviewed for impact of RVSM.

d. Ensure all height deviations of 300 feet or more are recorded and forwarded to the FAA Technical Center in Atlantic City, New Jersey at NAARMO@faa.gov.

REFERENCE–
FAAO 7210.56, Paragraph 4–1–9, Invalid Mode C Reporting.

6–9–3. OPERATIONS MANAGER–IN–CHARGE RESPONSIBILITIES

Responsibilities must include but not be limited to the following:

a. Maintain an operational awareness of RVSM impact specifically any non–RVSM aircraft being worked within RVSM airspace.

b. Ensure proper coordination is accomplished between the STMC/TMU and the operations supervisors/controllers–in–charge regarding the accommodation and handling of any non–RVSM aircraft.

c. Ensure, in conjunction with the Traffic Management Officer, that monitor alert values are addressed with RVSM impacts considered.

d. Ensure the proper RVSM software is turned on.

6–9–4. FRONT–LINE MANAGER–IN–CHARGE/CONTROLLER–IN–CHARGE RESPONSIBILITIES

Responsibilities must include but not be limited to the following:

a. Maintain an awareness of all operational impacts associated with RVSM, specifically any non–RVSM aircraft currently within area sectors or projected to be in sectors under his/her area of responsibility.

b. Ensure sector personnel have been properly briefed regarding any known non–RVSM aircraft in or projected to be in sectors under his/her area of responsibility.

c. Ensure sector workload remains manageable when non–RVSM aircraft are in or projected to be in sectors under his/her area of responsibility.

d. Coordinate all non–RVSM aircraft with operational supervisors/CIC as appropriate, both internally and externally, to ensure the aircraft is coordinated and accepted along its route of flight.

e. Non–RVSM Exception Flights Outbound from the U.S. The operational supervisor/CIC from the last area to have communications and operational control of the aircraft in the facility where an aircraft departs RVSM airspace designated for U.S. air traffic control, or exit facility, must coordinate with the international point–of–contact in a timely manner.

f. Ensure controllers at applicable sectors have their DSR MDM properly aligned to display the RVSM indicator depicting those aircraft that are non–RVSM.

6–9–5. NON–RVSM REQUIREMENTS

a. RVSM approval is required for aircraft to operate within RVSM airspace. The operator must determine that the appropriate State authority has approved the aircraft.

b. DOD, DOD–certified aircraft operated by NASA (T38, F15, F18, WB57, S3, and U2 aircraft only), MEDEVAC, aircraft operated by manufacturers for certification and development, and Foreign State exception aircraft will be accommodated in RVSM airspace on a workload permitting basis.

c. Within oceanic airspace or transiting to/from oceanic airspace aircraft being initially delivered to the State of Registry or Operator, an aircraft that was formerly RVSM approved but has experienced an equipment failure and is being flown to a maintenance facility for repair in order to meet RVSM requirements and/or obtain approval; an aircraft being utilized for mercy or humanitarian purposes; and within the Oakland, Anchorage, and Arctic FIRs, an aircraft transporting a spare engine mounted under the wing will be accommodated in RVSM airspace on a workload permitting basis.

d. Non–RVSM Exception Flights Inbound to U.S. The TMU at the facility where an aircraft penetrates RVSM airspace designated for U.S. air traffic control, or entry facility, receives the coordination from an international point–of–contact advising of an inbound non–RVSM exception. The TMU must coordinate with the operational supervisor/CIC in a timely manner.

6–9–6. EQUIPMENT SUFFIX AND DISPLAY MANAGEMENT

RVSM aircraft will file a “W” in the equipment field of an ICAO flight plan, or a suffix showing RVSM capability in a domestic flight plan (/H, /W, /L, or /Z). NAS automation shows non-RVSM aircraft with a coral box around the fourth character in the altitude segment of the data block. The conflict alert function

uses the flight plan indication of RVSM capability to determine the appropriate separation standard to apply.

6–9–7. MOUNTAIN WAVE ACTIVITY (MWA)

In areas of known MWA, aircraft operators have been encouraged to report encountering this weather event and the severity of its impact. Operators may request assistance in the form of reroutes, change of altitude, vectors, or merging target procedures.

6–9–8. WAKE TURBULENCE AND WEATHER RELATED TURBULENCE

a. *Domestic:* Aircraft experiencing turbulence can be anticipated to advise ATC and request a clearance for mitigation in the form of vectors, altitude change, or to fly an offset.

b. *Oceanic:* Aircraft experiencing turbulence can be anticipated to advise ATC and request a revised clearance. In instances where a revised clearance is not possible or practicable, the aircraft may fly a lateral offset not to exceed 2NM from the assigned route or track. Advise ATC as soon as practical and return to the assigned route when the offset is no longer required.

6–9–9. SUSPENSION OF RVSM

a. *Domestic:* RVSM will not be suspended in domestic airspace. Should turbulence or other weather phenomena require, separation can be increased in a defined area and thoroughly coordinated operationally.

b. *Oceanic:* Air Traffic Service providers will consider suspending RVSM procedures within affected areas when pilot reports of greater than moderate turbulence are received. Within airspace where RVSM procedures are suspended, the vertical separation minimum between all aircraft will be 2,000 feet above FL290.

b. The request must address the specific locations where multiple runway crossings will be authorized. This must only include locations where the intervening taxi route is less than 1,000 feet between runway centerlines.

c. Facilities must keep a copy of the approval correspondence issued by the Terminal Services Director of Operations.

d. Facility directives must include a diagram that depicts the runway/taxiway intersections where multiple runway crossings are authorized.

e. The Terminal Services Director of Operations must ensure that an annual review of multiple runway crossing operations is conducted for those facilities employing this operation. The results of this review must be sent to the Terminal Safety and Operations Support Office by September of each year.

10–3–11. AIRPORT CONSTRUCTION

Whenever there is construction on a movement area, or on a non-movement area that affects movement area operations, the ATM must:

a. Notify the Airport Construction Advisory Council via email to the following address: 9–AJA-ConstructionCouncil@faa.gov. The email should describe the construction project in detail.

b. Create, approve, and publish appropriate changes to local procedures.

c. Ensure training for all operational personnel is completed and documented.

d. Provide continued training and/or briefings for the duration of the construction project to ensure operational personnel are advised on construction changes as the project progresses.

e. Ensure the latest version of the "Runway-Taxiway Construction Best Practices" for preparation and operations is reviewed by appropriate personnel during construction.

f. Ensure the latest version of the "Runway-Taxiway Construction Checklist" for preparation and operations is used and completed by appropriate personnel.

NOTE–
Both the "Runway-Taxiway Construction Best Practices" and "Runway-Taxiway Construction Checklist" are available on the Runway Safety website. Go to the FAA homepage, search Runway Safety and click the Construction link.

REFERENCE–
FAAO JO 7110.65, Para 2-9-3, Content
FAAO JO 7110.65, Para 3-7-1, Ground Traffic Movement
FAAO JO 7110.65, Para 3-9-1, Departure Information
FAAO JO 7110.65, Para 3-9-4, Line Up and Wait (LUAW)
FAAO JO 7110.65, Para 3-9-9, Take-off Clearance
FAAO JO 7110.65, Para 3-10-1, Landing Information
FAAO JO 7110.65, Para 3-10-5, Landing Clearance
FAAO JO 7210.3, Para 10-3-12, Change in Runway Length Due to Construction
FAAO JO 7210.3, Para 10-4-1, Automatic Terminal Information Service (ATIS)

10–3–12. CHANGE IN RUNWAY LENGTH DUE TO CONSTRUCTION

When a runway length has been temporarily or permanently shortened, local procedures must be issued to include procedures covering the phraseology for all taxi, takeoff and landing clearances, ATIS broadcasts, NOTAMs, and other significant activities to ensure safety is not compromised. The ATM must:

a. Review and publish local weather criteria for each runway selected during periods of construction affecting the available runway length, for example:

1. 800' ceiling and 2 SM visibility – arrival/departure runway.

2. Weather less than 2 SM visibility - departure only runway.

b. Ensure training for operational personnel is completed prior to any runway length changes that include the following:

1. Use of the term "full length."

2. Use of the term "shortened."

3. Review of current and future national "Runway Construction Changes" training materials.

c. Provide continued training and/or briefings for the duration of the construction project to ensure operational personnel are advised of construction changes as the project progresses.

REFERENCE–
FAAO JO 7110.65, Para 2-9-3, Content
FAAO JO 7110.65, Para 3-7-1, Ground Traffic Movement
FAAO JO 7110.65, Para 3-9-1, Departure Information
FAAO JO 7110.65, Para 3-9-4, Line Up and Wait (LUAW)
FAAO JO 7110.65, Para 3-9-9, Take-off Clearance
FAAO JO 7110.65, Para 3-10-1, Landing Information
FAAO JO 7110.65, Para 3-10-5, Landing Clearance
FAAO JO 7210.3, Para 10-3-11, Airport Construction
FAAO JO 7210.3, Para 10-4-1, Automatic Terminal Information Service (ATIS)

10–3–13. APPROACHES TO PARALLEL RUNWAYS

a. Where vectors are provided to intercept parallel final approach courses, facilities must review and, where necessary, address speed requirements to reduce the potential for overshoot situations.

b. When determining speed requirements, consider, at a minimum, the following:

1. Airspace constraints.

2. Field elevation.

3. Fleet mix.

4. Airport layout.

5. Traffic flow(s).

6. Local weather.

c. When speed requirements are implemented, those requirements must be contained in a facility directive.

10–3–14. GO–AROUND/MISSED APPROACH

a. Tower facility directives must address procedures for go–arounds and/or missed approaches. The procedures must require controllers to issue control instructions as necessary to establish separation. During the development or review of these procedures, facilities must give consideration, at a minimum, to the following factors:

1. Operational position configuration.

2. Communication and/or control transfer.

3. Runway configuration.

4. Evaluation of existing waivers (for example, reduced separation on final).

5. Wake turbulence.

6. Weather conditions.

7. Type of approach (instrument or visual).

REFERENCE–
P/CG Term – Go–around
P/CG Term – Low Approach
P/CG Term – Missed Approach
FAAO JO 7110.65, Para 3–8–1, Sequence/Spacing Application
FAAO JO 7110.65, Para 3–8–2, Touch–and–Go or Stop–and–Go or Low Approach
FAAO JO 7110.65, Para 4–8–11, Practice Approaches
FAAO JO 7110.65, Para 4–8–12, Low Approach and Touch–and–Go
FAAO JO 7110.65, Para 5–5–4, Minima
FAAO JO 7110.65, Para 5–6–3, Vectors Below Minimum Altitude
FAAO JO 7110.65, Para 5–8–4, Departure and Arrival
FAAO JO 7110.65, Para 5–8–5, Departures and Arrivals on Parallel or Nonintersecting Diverging Runways
FAAO JO 7110.65, Para 7–2–1, Visual Separation
FAAO 7110.98A, Para 8d2
FAAO JO 7110.308, Para 6b1(d), Para 6c2(i)

b. Facility air traffic managers may develop procedural mitigations for non–intersecting converging runways when a 1 NM extension of the runway centerline crosses the centerline of the other runway or the 1 NM extensions of a runway cross the extension of another runway. Facility directives must:

1. Specify procedures to ensure that an arrival that executes a go-around does not conflict with a departure off the non–intersecting converging runway.

2. Define technological tools that could assist in the locally developed procedures.

3. Specify procedures to be used when conditions dictate that intersecting runway separation standards must be applied.

NOTE–
1. *The locally developed procedure will ensure that the potential go around aircraft will not conflict with a departing aircraft that is departing the non–intersecting converging runways. All locally developed procedures will be approved by the Director of Operations, Headquarters. ATMs will determine what tools are needed in the development of local procedures. These may include, but are not limited to:*

a. *Arrival Departure Window (ADW)*

b. *ASDE-X Virtual Runway Intersection Point (VRIP)*

c. *Cutoff Points (CP) developed with the use of enhanced TARGETS.*

REFERENCE–
FAAO 7110.65, Para 3-9-9, Non–intersecting Converging Runway Operations.

c. The procedures must be evaluated on an annual basis to determine their effectiveness.

control prior to departing an outer fix if the aircraft does not have the appropriate airborne equipment or they do not choose to conduct a simultaneous approach. Provide individual handling to such aircraft.

3. Closely monitor weather activity that could impact the final approach course. Weather conditions in the vicinity of either final approach course may dictate a change of the approach in use. (See subpara 10-1-6b Note, Selecting Active Runways).

4. All turn-ons and final approaches are monitored by radar. Since the primary responsibility for navigation rests with the pilot, instructions from the controller are limited to those necessary to ensure separation between aircraft. Information and instructions are issued as necessary to contain the aircraft on the final approach course. Aircraft which are observed deviating from the assigned final approach course are instructed to alter course left or right, as appropriate, to return to the desired course. Unless altitude separation is assured between aircraft, immediate action must be taken by the controller monitoring the adjacent parallel approach course to require the aircraft in potential conflict to alter its flight path to avoid the deviating aircraft.

5. Missed approach procedures are established with climbs on diverging courses. To reduce the possibility of error, the missed approach procedure for a single runway operation should be revised, as necessary, to be identical with that of a simultaneous approach operation.

b. The following minimum radar and communications equipment must be provided for monitoring simultaneous approaches:

1. One separate airport surveillance radar display of a model currently certified for ATC functions.

2. Establish separate radar and local control positions for each final approach course.

3. Facility directives must define the position responsible for providing the minimum applicable longitudinal separation between aircraft on the same final approach course.

c. Record the time the operation begins and ends on the facility log.

d. Where possible, establish standard breakout procedures for each simultaneous operation. If traffic patterns and airspace permit, the standard breakout altitude should be the same as the missed approach altitude.

e. If there is an aircraft deviation requiring the utilization of breakout procedures, or if there is a loss of separation, specifically a compression on final error, forward a copy of that QAR to the Terminal Procedures Group via email at 9-ATOT-HQ-Safety-Risk-Management. This requirement must be written into each facility SOP.

10–4–9. SIMULTANEOUS CONVERGING INSTRUMENT APPROACHES

a. The procedures to conduct Simultaneous Converging Instrument Approaches (SCIA) must be developed in accordance with the following paragraphs.

1. The ATM must:

(a) Determine that the volume and complexity of aircraft operations requires the use of simultaneous converging instrument approaches. Additionally, no adverse impact on the users or air traffic control facilities can result from the implementation of the procedure.

(b) Coordinate with airport operations to ensure that runway intersection identification markings are in accordance with appropriate standards if the runways intersect.

(c) Coordinate with the responsible Service Area Flight Procedures Team (FPT) through the service area Operations Support Group (OSG) for the feasibility of SCIA procedural design and the ability to achieve minimums sufficient to justify procedural development. The FPT must consider all aspects of the approach, including NAVAIDS, approach lighting, and airport lighting.

(d) Prepare a staff study which includes:

(1) Type of aircraft and user groups that will be involved in SCIA operations.

(2) Anticipated effect on airport/ airspace capacity, including projected reductions in departure delays, airport acceptance rate and projected savings in aircraft fuel consumption.

(3) Daily time periods during which the procedure would be applied.

(4) A preliminary environmental assessment in accordance with FAA Order 1050.1,

Environmental Impacts: Policies and Procedures (See paragraph 4-1-6, Preliminary Environmental Review).

2. After completing steps 1 through 4 above, the ATM must:

(a) Submit the request for SCIA operations, to include the completed staff study and a draft graphic of the ILS-Standard Instrument Approach Procedure, to their OSG for review.

(1) The OSG must coordinate the procedure with the regional Flight Standards Division.

(2) When approved, the OSG will process the package through the FPT for development.

(b) Develop a Letter to Airmen defining local procedures to be used at least 30 days before the effective date. Additional means of publicizing local procedures must be employed in accordance with paragraph 4-2-4, Coordination of ATC Procedures.

b. The requirements for conducting SCIA operations to converging runways are:

1. Operational air traffic control radar.

2. Precision instrument approach procedures must be established on each runway.

3. Non intersecting final approach courses.

4. SIAP specifically titled "Converging" and is published in parenthesis after the title of the procedure, for example, ILS V Rwy 17 (Converging).

(a) Missed approach points (MAP) must be at least 3 nautical miles (NM) apart, and

(b) Published missed approach procedures diverge by at least 45 degrees.

(c) The ATM must designate a primary and secondary runway for SCIA runway configurations including separation responsibility and procedures to be applied in the event a missed approach is initiated inside the MAP.

(d) Flight Procedures will determine the appropriate approach minimums for both primary and secondary runways for each SCIA configuration.

5. Converging approaches must not be conducted simultaneously to runways that intersect, when the ceiling is less than 1,000 feet or the visibility is less than 3 miles.

6. Converging approaches to runways that do not intersect may be conducted when the ceiling is less than 1,000 feet or visibility less than 3 miles provided all other conditions of this directive are met.

7. Application of this procedure to intersecting runways does not relieve the controller of the responsibility to provide intersecting runways separation as required in FAA Order JO 7110.65, paragraph 3-10-4.

8. A facility directive or letter of agreement must be developed specifying as a minimum:

(a) The runway configurations to be used during SCIA operations,

(b) Separation responsibility and procedures, to be applied, in the event a missed approach is initiated inside the MAP,

(c) Coordination requirements,

(d) Weather minima applicable to each configuration, if different from published minima.

NOTE–
The ATM may establish higher minima than published on the SIAP to preclude, to the extent feasible, the possibility of a weather related missed approach.

c. Authorize simultaneous instrument approaches to converging runways under the following conditions:

1. Only straight-in approaches must be made.

2. All appropriate communication, navigation, and surveillance systems are operating normally.

3. Aircraft must be informed on initial contact, or as soon as possible, that simultaneous converging approaches are in use. Broadcasting this information on the ATIS satisfies this requirement.

4. Weather activity that could impact the final approach courses must be closely monitored. Discontinue SCIA operations if weather trends indicate deteriorating conditions which would make a missed approach likely.

d. Record any occurrence of simultaneous missed approaches while conducting SCIA on FAA Form 7230-4, Daily Record of Facility Operation and submit a mandatory occurrence report (MOR).

10–4–10. PRECISION RUNWAY MONITOR–SIMULTANEOUS OFFSET INSTRUMENT APPROACHES

a. Precision Runway Monitor–Simultaneous Offset Instrument Approaches (PRM–SOIA) may be conducted at airports with dual parallel runways with centerlines separated by at least 750 feet and less than 3,000 feet, with one straight–in Instrument Landing System (ILS)/Microwave Landing System (MLS) and one Localizer Directional Aid (LDA), offset by 2.5 to 3.0 degrees using a PRM system with a 1.0 second radar update system in accordance with the provisions of an authorization issued by the Director of Terminal Safety and Operations Support in coordination with AFS. A high–resolution color monitor with alert algorithms, such as a final monitor aid (FMA) must be required.

b. Notification procedures for pilots unable to accept an ILS PRM or LDA PRM approach clearance can be found on the Attention All Users Page (AAUP) of the Standard Instrument Approach Procedures (SIAP) for the specific airport PRM approach.

c. Closely monitor weather activity that could impact the final approach course. Weather conditions in the vicinity of either final approach course may dictate a change of the approach in use. (See para 10–1–6, Selecting Active Runways, subpara b Note.)

d. All turn–ons and final approaches are monitored by radar. Since the primary responsibility for navigation rests with the pilot, instructions from the controller are limited to those necessary to ensure separation between aircraft and to prevent aircraft from penetrating the NTZ. Information and instructions are issued, as necessary, to contain the aircraft's flight path within the Normal Operating Zone (NOZ). Aircraft which are observed approaching the No Transgression Zone (NTZ) are instructed to alter course left or right, as appropriate, to return to the desired course. Unless altitude separation is assured between aircraft, immediate action must be taken by the controller monitoring the adjacent parallel approach course to require the aircraft in potential conflict to alter its flight path to avoid the deviating aircraft.

e. Missed approach procedures are established with climbs on diverging courses. To reduce the possibility of error, the missed approach procedure for a single runway operation should be revised, as necessary, to be identical with that of the PRM–SOIA operation.

f. Where possible, establish standard breakout procedures for each simultaneous operation. If traffic patterns and airspace permit, the standard breakout altitude should be the same as the missed approach altitude.

g. The following requirements must be met for conducting PRM–SOIA:

1. All PRM, FMA, ILS, LDA with glideslope, distance measuring equipment, and communications frequencies must be fully operational.

2. The common NOZ and NTZ lines between the final approach course centerlines must be depicted on the radar video map. The NTZ must be 2,000 feet wide and centered an equal distance from the final approach centerlines. The remaining spaces between the final approach courses are the NOZs associated with each course.

3. Establish monitor positions for each final approach course that have override transmit and receive capability on the appropriate control tower frequencies. A check of the override capability at each monitor position must be completed before monitoring begins. Monitor displays must be located in such proximity to permit direct verbal coordination between monitor controllers. A single display may be used for two monitor positions.

4. Facility directives must define the position responsible for providing the minimum applicable longitudinal separation between aircraft on the same final approach course.

h. Dual local control positions, while not mandatory, are desirable.

i. Where possible, establish standard breakout procedures for each simultaneous operation. If traffic patterns and airspace permit, the standard breakout altitude should be the same as the missed approach altitude.

j. Wake turbulence requirements between aircraft on adjacent final approach courses inside the LDA MAP are as follows (standard in–trail wake separation must be applied between aircraft on the same approach course):

1. When runways are at least 2,500 feet apart, there are no wake turbulence requirements between aircraft on adjacent final approach courses.

2. For runways less than 2,500 feet apart, whenever the ceiling is greater than or equal to 500 feet above the MVA, wake vortex spacing between aircraft on adjacent final approach courses need not be applied.

3. For runways less than 2,500 feet apart, whenever the ceiling is less than 500 feet above the MVA, wake vortex spacing between aircraft on adjacent final approach courses as described in FAAO JO 7110.65, Air Traffic Control, para 5–5–4, Minima, must be applied unless acceptable mitigating techniques and operational procedures are approved by the Director of Terminal Safety and Operations Support pursuant to an AFS safety assessment. A request for a safety assessment must be submitted to the Terminal Safety and Operations Support Office through the service area office manager. The wake turbulence mitigation techniques employed will be based on each airport's specific runway geometry and meteorological conditions and implemented through local facility directives.

4. All applicable wake turbulence advisories must be issued.

k. A local implementation team must be established at each facility conducting PRM–SOIA. The team should be comprised of representatives from the local airport sponsor and other aviation organizations. The team will monitor local operational integrity issues and report/refer issues for national consideration as appropriate.

l. For any new proposal to conduct PRM–SOIA, an operational need must be identified by the ATC facility manager, validated by the service area office manager, and forwarded to the Terminal Safety and Operations Support Office for appropriate action. The statement of operational need should identify any required site specific procedures.

10–4–11. REDUCED SEPARATION ON FINAL

Separation between aircraft may be reduced to 2.5 NM in–trail separation on the final approach course within 10 NM of the runway provided an average Runway Occupancy Time (ROT) of 50 seconds or less is documented for each runway. ROT is the length of time required for an arriving aircraft to proceed from over the runway threshold to a point clear of the runway. The average ROT is calculated by using the average of the ROT of no less than 250 arrivals. The 250 arrivals need not be consecutive but must contain a representative sample of the types of aircraft that use the runway. Average ROT documentation must be revalidated within 30 days if there is a significant change in runway/taxiway configuration, fleet mix, or other factors that may increase ROT. Revalidation need not be done for situations that are temporary in nature. Only the ROT for the affected runway(s) will need to be revalidated. All validation and revalidation documentation must be retained and contain the following information for each arrival:

a. Aircraft call sign.

b. Aircraft type.

c. Time across the threshold.

d. Time clear of the runway.

e. Items c and d above may be omitted if using a stopwatch. Record the total number of seconds required for an aircraft to proceed from over the landing threshold to a point clear of the runway when using a stopwatch.

REFERENCE–
FAAO JO 7110.65, Subpara 5–5–4f, Minima.

10–4–12. MINIMUM IFR ALTITUDES (MIA)

At terminal facilities that require minimum IFR altitude (MIA) charts, determine MIA information for each control sector and display them at the sector. This must include off–airway minimum IFR altitude information to assist controllers in applying 14 CFR Section 91.177 for off–airway vectors and direct route operations. Facility air traffic managers must determine the appropriate chart/map method for displaying this information at the sector. Forward charts and chart data records to Technical Operations Aviation System Standards, National Flight Procedures, for certification and annual review.

NOTE–
1. *For guidance in the preparation and review of Minimum IFR Altitude charts see FAAO 7210.37, En Route Minimum IFR Altitude (MIA) Sector Charts.*

2. *This may be accomplished by appending the data on sector charts or MVA charts; Special translucent sectional charts are also available. Special ordering information is contained in FAAO 1720.23, Distribution*

of Aeronautical Charts and Related Flight Information Publications. (Reference – para 3–8–2.)

1. Balance the arrival flow and the tower en route flow by coordinating with the appropriate ARTCC TMUs and/or adjoining terminal facility(s) to ensure that demand does not exceed current capabilities.

2. Through coordination with the tower and TRACON, establish AAR and assist the ARTCC and adjacent terminal facility(s) in the development of strategies to achieve the AAR.

3. Oversee departure fix balancing to ensure sector efficiency into the next facility's airspace.

4. Implement gate hold procedures as required to reduce airport surface congestion.

5. Coordinate with airport officials to ensure closures of runways, taxiways, and other airport facilities minimize operational impact.

6. Ensure optimum airspace/runway configurations.

7. Periodically analyze and review TM procedures to ensure effectiveness and adherence to programs/initiatives and, when necessary, make adjustments. Cancel TM initiatives promptly when no longer needed.

8. Notify the appropriate facilities concerning local TM initiatives.

NOTE–
The appropriate ARTCC TMU must be the focal point for any interface concerning TM related issues, as well as the mediator between terminal facilities. The ARTCC TMU will then coordinate with the ATCSCC on behalf of the TRACON or the tower. Because of the unique situation of the New York TRACON having three centers, the New York TRACON must coordinate directly with the ATCSCC and have the ATCSCC conference the appropriate ARTCCs. In those instances where the ARTCC TMU is unable to resolve disputes between multiple terminal facilities, the ATCSCC must have the final decision making authority.

Section 20. Operations Plan

17–20–1. PURPOSE

Establishes the process, structure and responsibilities for developing, managing and implementing a daily strategic plan for air traffic operations in the National Airspace System (NAS).

17–20–2. DEFINITION

a. The Operations Plan (OP): The OP is a plan for management of the NAS. The OP is a collaboratively developed plan. The OP is derived by the Planning Team (PT) after collaboration with the FAA and customer's weather forecasters, FAA Air Route Traffic Control Center (ARTCC) Traffic Management Officer (TMO) or designee, other FAA field facility management personnel, airline planners, Air Traffic Control System Command Center (ATCSCC) personnel, international facilities, military, and general aviation system customers.

b. Trigger: A specific event that causes a specific traffic management initiative (TMI) to be implemented.

1. A trigger is for planning purposes and is intended to reduce coordination when implementing the specified TMI.

2. All en route facilities impacted by the TMI must be contacted prior to implementing the TMI in response to the trigger.

3. En route facilities must relay TMIs to affected terminal facilities within their area of jurisdiction.

4. All triggers will be identified by "IF, THEN" clauses in the OP.

EXAMPLE–
IF thunderstorms develop as forecast on J96, THEN ZKC will initiate the ORD BDF1 Playbook route.

c. The OP will specify:

1. Terminal constraints: facilities where delays are expected to be 15 minutes or greater.

2. En route constraints: facilities where expanded miles–in–trail, deviations, and tactical reroutes may be required.

17–20–3. RESPONSIBILITIES

a. The ARTCC TMO or their designee must:

1. Participate via the PT Telephone Conference (TELCON) in the formulation and development of the OP when stated on the previous OP, or requested later by the ATCSCC, or issues within the facility arise that may require inclusion in the OP.

2. Provide input on:

(a) Equipment outages having an operational impact;

(b) Internal initiatives;

(c) Terminal constraints;

(d) Route closure/recovery information;

(e) Anticipated Traffic Management Initiatives (TMI) necessary to manage the system; or

(f) Other issues which may impact operations (i.e., staffing, special events, etc.). See FIG 17–20–1, Operational Planning TELCON Checklist.

3. Brief and direct facility Operational Supervisors, Traffic Management Supervisors, Traffic Management Units, and operational personnel on the implementation of the OP and gather additional information for the next TELCON.

4. Coordinate with and provide direction to underlying facilities on the implementation of the OP.

5. Monitor and assess the OP, notifying the ATCSCC of problems that may impact the OP.

6. Provide operational feedback for use in post–operational evaluation of the OP.

b. The ATCSCC must:

1. Maintain the Planning Team (PT) TELCON Bridge.

2. Maintain a web page for publicizing the OP to aviation systems users.

c. The ATCSCC National Operations Manager (NOM) must:

1. Direct the facility National Traffic Management Officer (NTMO), ATCSCC operational units, and personnel on implementation of the OP.

2. Coordinate with and provide direction to FAA facilities on implementation of the OP.

d. The ATCSCC PT must:

1. Lead the PT in development of the OP.

2. Record participation of FAA and non–FAA entities in PT TELCONs.

3. Formulate the OP through coordination with PT members using the OP Timeline.

4. Brief the NOM, NTMO, and other ATCSCC operational elements on the OP.

5. Post the OP on the ATCSCC web site and issue as a numbered advisory.

6. Document agreed upon triggers in the OP.

e. The Terminal Facility Management must:

1. When notified by the ARTCC TMO or designee or ATCSCC PT, participate in the PT TELCONs.

2. Brief and direct facility operational personnel on actions required by the OP.

3. Monitor and assess the OP, notifying the ATCSCC of problems that may impact the OP.

17–20–4. PROCEDURES

a. The PT is composed of FAA and customer weather forecasters, FAA ARTCC's TMO, or designee, other FAA field facility management personnel, airline strategic planners, ATCSCC personnel, international facilities, and military and general aviation system customers.

b. The ATCSCC has been delegated the authority to direct the operation of the PT TELCONs for the FAA.

1. The ATCSCC will notify those FAA facilities required to participate as part of the PT TELCON.

2. Military, international, and general aviation entities will be included as necessary.

c. The PT collaborates on the formation of the OP. The OP is normally developed for the hour beginning after the TELCON commences and the subsequent six (6) hours. The OP is updated, amended, and evaluated on a recurring basis through a dedicated TELCON Phone Bridge at the ATCSCC.

d. Collaborative Convective Forecast Product (CCFP): The CCFP is the consolidated input of ARTCC Weather Service Unit (CWSU), Aviation Weather Center (AWC) personnel, ATCSCC Weather Unit (DCCWU) personnel, and airline meteorologists. The CCFP is the primary weather product used by the PT in developing the OP.

e. OP Timeline (all times local/eastern): The OP Timeline provides a method for group decision–making and collaboration in dealing with system constraints. Modification of the timeline, participation, and scheduling is done at the discretion of the PT and as directed by the ATCSCC.

1. 5:00 a.m. – National Weather TELCON: ATCSCC PT monitors the weather TELCON, receives midnight operational briefing, and collaborates with select FAA facilities and users for the next amendment.

2. 6:00 a.m. – Amendment to the OP is published on the ATCSCC web page and through an ATCSCC numbered advisory.

3. 6:00–7:00 a.m. – Individual team entities conduct an assessment of operation in preparation for the OP TELCON. The ATCSCC identifies and notifies FAA facilities required to participate in the PT TELCON.

4. 7:15 a.m. – Planning TELCON conducted: The OP is developed by the PT.

5. 8:00 a.m. – The OP is published on the ATCSCC web site and via numbered advisory.

6. 8:00–9:00 a.m. – Individual team entities conduct an assessment of operation in preparation for the OP TELCON.

7. 9:15 a.m. – Planning TELCON conducted: The OP is developed by the PT.

Section 26. Weather Management

17–26–1. GENERAL

This section prescribes policy and responsibilities to ensure required weather products and services are provided in a timely manner.

17–26–2. BACKGROUND

The FAA (AJR) maintains an Inter-Agency Agreement (IA) with the National Oceanic and Atmospheric Administration/National Weather Service (NWS) for the provision of meteorological services to FAA facilities and specifies assignment of NWS meteorologists to the ATCSCC and to each ARTCC. The meteorologists provide ATC operational personnel advised of weather conditions that may be hazardous to aviation or impede the flow of air traffic in the NAS sixteen hours a day/seven days a week. Specific duties of the meteorologists are outlined below in section 17-26-4 for FAA personnel awareness. Additional details can be found in the IA Statement of Work (SOW) and NWS Instruction 10-803, Support to Air Traffic Control Facilities.

17–26–3. POLICY

Facility managers will designate an operational ATC representative to serve as the Weather Coordinator (WC). The WC position is required for all shifts and is the primary interface between the NWS meteorologist and the facilities air traffic staff. The WC position is located in the TMU of each ARTCC. This position is a 24 hour position and can be combined with the OMIC when there are no TMU personnel present. All personnel assigned to this function must receive training for the associated responsibilities. If weather conditions warrant and workload permits, the WC may perform other operational or administrative functions.

17–26–4. RESPONSIBILITIES

a. Facility Managers must:

1. Have operational responsibility for the NWS meteorologists although responsibility for day to day activities can be delegated to the TMO. For example, if weather conditions warrant that the_CWSU staff needed to be continued beyond the typical 16 hour day, the TMO could approve this.

2. Work with the local NWS Meteorologist-in-Charge (MIC) to ensure local orders and procedures define the NWS support expected and that compliance in the provision of the support is attained.

3. Ensure NWS meteorologists receive facility and air traffic control system familiarization training, as appropriate.

4. Forward any unresolved issues with NWS support to the appropriate Service Area and the FAA COTR for the IA.

5. Maintain a copy of the current IA and SOW.

b. The Weather Coordinator must:

1. Disseminate the inter/intrafacility SIGMETs, *AIRMETS,* CWAs, and Urgent PIREPs.

2. Provide assistance in the collection and dissemination of other significant weather information. WC priority of duties and responsibilities include:

(a) Inter/intrafacility dissemination of SIGMET's.

(b) Dissemination of CWA's within the ARTCC.

(c) Dissemination of urgent PIREP's within the ARTCC.

(d) Dissemination of CWA's to other facilities (via other than LSAS).

(e) Dissemination of AIRMETS within the ARTCC.

(f) Inter/intrafacility dissemination of Meteorological Impact Statements as required (via other than LSAS).

(g) Dissemination of other weather intelligence within the ARTCC as specified by local requirements.

(h) Receipt and handling of requests for PIREP/SIGMET/*AIRMET*/CWA's and other pertinent weather information.

c. NWS meteorologists' duties include:

1. Provide meteorological advice and consultation to ARTCC operational personnel and other designated FAA air traffic facilities, terminal, FSS and AFSS, within the ARTCC area of responsibility.

2. Provide scheduled and unscheduled briefings and products as needed per the IA SOW, NWS Instruction 10-803, and the operational direction of the Facility Manager. Examples include:

(a) Scheduled Briefings generally consist of forecast weather conditions pertinent to the ARTCC area during a specified period, plus an extended outlook. These briefings are scheduled and provided as required by the facility manager.

(b) Unscheduled products include the Meteorological Impact Statement (MIS) which is an unscheduled planning forecast describing conditions expected to begin within 4 to 12 hours which will, in the forecaster's judgment, impact the flow of air traffic within the ARTCC's area of responsibility and the Center Weather Advisory (CWA) which is an unscheduled air traffic and aircrew advisory statement for conditions currently in existence or beginning within the next 2 (two) hours.

3. The MIC will work with the Facility Manager to ensure local orders and procedures define the NWS support expected, to include operating hours. The MIC will also ensure back-up support plans are in place when and if the meteorologists at the center are not available.

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BRIEFING GUIDE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Initiated By: AJV−0
Vice President, Mission Support Services

Table of Contents

1. PARAGRAPH NUMBER AND TITLE:
2-2-4. DUTY FAMILIARIZATION AND THE TRANSFER OF POSITION RESPONSIBILITY
2-6-1. WATCH SUPERVISION

2. BACKGROUND: On December 11 and 12, 2013, the ATO convened a Corrective Action Plan (CAP) development team. The team's purpose was to address the FY 2014 Top 5 hazards contributing to risk in the National Airspace System. One of the hazards identified was pertinent elements of position relief briefings being omitted. Another hazard identified was air traffic control specialists being distracted from priority tasks by activities in the work area and/or other job related functions.

3. CHANGE:

OLD	NEW
2-2-4. DUTY FAMILIARIZATION AND THE TRANSFER OF POSITION RESPONSIBILITY	**2-2-4. DUTY FAMILIARIZATION AND THE TRANSFER OF POSITION RESPONSIBILITY**
Title through **b**	No change
1. Review each sector or position and provide a tailored checklist which lists the equipment and the operational conditions which are likely to be a factor at that position.	**1.** Review each sector or position and provide a tailored checklist which lists the equipment and the operational conditions which are likely to be a factor at that position. **Checklists must be reviewed annually to ensure the sector/position checklist items are current.**

OLD	NEW
2-6-1. WATCH SUPERVISION	**2-6-1. WATCH SUPERVISION**
Title through **Paragraph a10**	No Change
11. Management of the operational environment with a goal toward eliminating distractions.	**11.** Management of the operational environment with a goal toward eliminating distractions **of:**
Add	**(a) Non-operationally-related activities or tasks that are distracting, such as controller schedule or leave bidding.**
Add	**(b) Non-operationally needed items and equipment.**
Add	**(c) When activities or tasks that are not time critical or operationally necessary become distracting to the operation, watch supervision must take steps to defer or relocate these activities or tasks.**
a12 through **b** ***NOTE***	No Change

1. PARAGRAPH NUMBER AND TITLE: 2-6-7. BASIC WATCH SCHEDULE

2. BACKGROUND: The ATO Fatigue Safety Steering Committee (FSSC) established a work group to review operational and procedural options, then identify and formulate criteria to use for long-term planning. The FSSC work group (FAA management, NATCA, and PASS representatives) was supported by the ATO FRMT, fatigue science expertise, and data analysis. The work group reviewed fatigue hazards associated with three types of work schedules: 10-hour midnight shifts, consecutive midnight shifts, and early days preceding midnight shifts. The work group then developed mitigation recommendations to reduce identified fatigue hazards related to midnight shift watch schedules.

3. CHANGE:

OLD	NEW
2-6-7. BASIC WATCH SCHEDULE	**2-6-7. BASIC WATCH SCHEDULE**
Title through **b5**	No change
6. Do not work more than six shifts without taking a regular day off.	**6. If an employee is assigned more than two (2) consecutive ten (10) hour midnight shifts, all of the consecutive ten (10) hour midnight shifts require a 2100L (Non flex) start time.**
7. Authorized leave, compensatory time used, and credit hours used are considered hours of work.	**7. Ten (10) hour midnight shifts are limited to no more than four (4) in any six (6) day period.**
8. These criteria apply to shift adjustments, including the exchange of shifts and/or days off and the change of shifts and/or days off.	**8. No day shift may immediately precede a ten (10) hour midnight shift.**
Add	**9. Eight (8) hour midnight shifts may be extended by no more than one (1) hour per single shift.**
Add	**10. A 0530L start time or later is required when working an eight (8) hour day shift prior to an eight (8) hour midnight shift. Employees may not flex to an earlier start time than 0530L.**
Add	**11. Do not work more than six shifts without taking a regular day off.**
Add	**12. Authorized leave, compensatory time used, and credit hours used are considered hours of work.**
Add	**13. These criteria apply to shift adjustments, including the exchange of shifts and/or days off and the change of shifts and/or days off.**

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1. PARAGRAPH NUMBER AND TITLE: 2–9–6. VISIBILITY CHARTS

2. BACKGROUND: Effective October 1, 2013, the National Weather Service (NWS) transferred the responsibility for training oversight, certification, and facility inspection responsibilities for Limited Aviation Weather Reporting Stations (LAWRS), Contract Weather Observers (CWO), and non-Federal Weather Observers (NF-OBS), to the FAA. The non-Federal Observers are those working under the guidelines of the FAA NF-OBS Program (FAA Order 7900.5, Appendix B). The FAA will assume responsibility for issuing and tracking certifications for the specified weather observers, verifying that training and other weather observation

qualifications are met, and inspecting facilities where observations are performed by the specified weather observers.

3. CHANGE:

OLD	NEW
2–9–6. VISIBILITY CHARTS	**2–9–6. VISIBILITY CHARTS**
Where facilities provide backup/augmentation of automated weather observations, or manual observations, the facility air traffic manager, in conjunction with NWS personnel, must prepare and maintain visibility charts in accordance with the following:	**a.** Where facilities provide backup/augmentation of automated weather observations, or manual observations, the facility air traffic manager **will select a designee that will** prepare and maintain visibility charts in accordance with the following:
a. Prepare a chart(s) or list(s) for daytime and nighttime visibility markers. At local discretion, visibility markers may be depicted on separate daytime and nighttime charts or on a daytime/nighttime combination chart. Panoramic photographs marked with distances and cardinal compass points may also be used.	**1.** Prepare a chart(s) or list(s) for daytime and nighttime visibility markers. At local discretion, visibility markers may be depicted on separate daytime and nighttime charts or on a daytime/nighttime combination chart. Panoramic photographs marked with distances and cardinal compass points may also be used.
b. Daytime/Nighttime combination charts must use the following legend for each marker:	**2.** Daytime/Nighttime combination charts must use the following legend for each marker:
Graphic	No Change
c. Each marker used must be identified and its distance from the observation point noted. Include the height of the marker if it is for estimating heights of clouds and obscuring phenomena.	**3.** Each marker used must be identified and its distance from the observation point noted. Include the height of the marker if it is for estimating heights of clouds and obscuring phenomena.
Add	**4. Mapping programs, aircraft/vehicles, GPS and/or surveying equipment are all valid methods to develop visibility charts.**
Add	**b. The air traffic manager must conduct an annual review and approve the visibility charts, lists, or photos to ensure their accuracy.**

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1. PARAGRAPH NUMBER AND TITLE:
3-7-3. DISPLAY MAP DATA
10-3-14. GO-AROUND/MISSSED APPROACH

2. BACKGROUND: A Corrective Action Request was developed identifying airports where aircraft operating on non-intersecting converging runways were passing through the airborne intersection on the extended centerline of the runway within 14 seconds of each other. Additionally, on July 1, 2013, the National Transportation Safety Board issued Safety Recommendation A-13-024 identifying the same issue. The ATO tasked Air Traffic Managers at those facilities that have non–intersecting converging runways where the extended centerline of a runway crosses a converging runway or the extended centerline of a converging runway within 1NM of either departure end to convene/complete a SRM panel to review these operations. The changes were created by a work group at the direction of the Office of Safety and Technical Training (AJI). The changes were incorporated via a Notice. The Notice was implemented at LAS, CLT, JFK, IAD, IAH, ORD, and BOS beginning January 15, 2014. Secondly, the change was implemented at DFW, MSP, DEN, BWI, HNL, MEM,

MIA, PHL, SLC, and TPA beginning April 2, 2014. Lastly, the change was implemented at all additional affected airports beginning July 9, 2014.

3. CHANGE:

OLD	NEW
3-7-3. DISPLAY MAP DATA	**3-7-3. DISPLAY MAP DATA**
Title through **p**	No Change
Add	**q. Virtual intersection markings for non-intersecting converging runways if the flight paths intersect within 1NM beyond the departure end of both runways.**

OLD	NEW
10-3-14. GO-AROUND/MISSSED APPROACH	**10-3-14. GO-AROUND/MISSSED APPROACH**
Title through ***REFERENCE***	No change
NOTE– *Facilities with approved arrival/departure window procedures are considered to be in compliance with the provisions of this paragraph.*	Delete
Add	**b. Facility air traffic managers may develop procedural mitigations for non–intersecting converging runways when a 1 NM extension of the runway centerline crosses the centerline of the other runway or the 1 NM extensions of a runway cross the extension of another runway. Facility directives must:**
Add	**1. Specify procedures to ensure that an arrival that executes a go-around does not conflict with a departure off the non–intersecting converging runway.**
Add	**2. Define technological tools that could assist in the locally developed procedures.**
Add	**3. Specify procedures to be used when conditions dictate that intersecting runway separation standards must be applied.**
Add	***NOTE–*** **1.** ***The locally developed procedure will ensure that the potential go around aircraft will not conflict with a departing aircraft that is departing the non–intersecting converging runways. All locally developed procedures will be approved by the Director of Operations, Headquarters. ATMs will determine what tools are needed in the development of local procedures. These may include, but are not limited to:***
Add	***(a) Arrival Departure Window (ADW)***
Add	***(b) ASDE-X Virtual Runway Intersection Point (VRIP)***
Add	***(c) Cutoff Points (CP) developed with the use of enhanced TARGETS.***

Add	***REFERENCE-*** ***FAAO 7110.65, Para 3-9-9, Non –intersecting Converging Runway Operations.***
b. The procedures must be evaluated on an annual basis to determine their effectiveness.	**c.** The procedures must be evaluated on an annual basis to determine their effectiveness.

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1. PARAGRAPH NUMBER AND TITLE: 3-8-2. MINIMUM VECTORING ALTITUDE CHARTS (MVAC) PREPARATION (TERMINAL/MEARTS)

2. BACKGROUND: The Flight Standards organization has revised Terminal Instrument Procedures (TERPS) criteria concerning Minimum Vectoring Altitude (MVA) charts. The Flight Systems Lab, AFS-450, has completed a safety analysis that has resulted in an acceptable collision risk regarding the practice of rounding resultant MVAs to the nearest 100-foot increment, with some conditions. This coupled with the recent change in the Code of Federal Regulations, 14 CFR 91.177, Minimum IFR Altitudes, has permitted a return to this legacy practice. Additionally, Aeronautical Navigation Services is undergoing a reorganization and being absorbed into the new Mission Support Services organization, AJV. As a result, all references to Aero Nav Services are being changed to reflect this reorganization.

3. CHANGE:

OLD	NEW
3-8-2. MINIMUM VECTORING ALTITUDE CHARTS (MVAC) PREPARATION (TERMINAL/MEARTS)	**3-8-2. MINIMUM VECTORING ALTITUDE CHARTS (MVAC) PREPARATION (TERMINAL/MEARTS)**
Prepare a vectoring chart in accordance with the criteria contained in FAA Order 8260.3, United States Standard for Terminal Instrument Procedures (TERPS)	No Change
a. MVACs must be developed and maintained using the Sector Design and Analysis Tool (SDAT). Facility Managers may request assistance in the development and maintenance of their MVAC or request SDAT user support by soliciting the Mission Support Services, Geographic Services Group. MVACs developed in SDAT properly apply obstruction clearance criteria required by FAA Order 8260.3. SDAT completes FAA Form 7210-9 and automatically creates and sends the necessary data files to Mission Support Services, ATC Products Group upon certification.	**a.** MVACs must be developed and maintained using the Sector Design and Analysis Tool (SDAT). Facility Managers may request assistance in the development and maintenance of their MVAC or request SDAT user support by soliciting the Mission Support Services, Geographic Services Group. MVACs developed in SDAT properly apply obstruction clearance criteria required by FAA Order 8260.3. SDAT completes FAA Form 7210-9 and automatically creates and sends the necessary data files to Mission Support Services, ATC Products Group upon certification **for subsequent radar video map creation. Facility correspondence to ATC Products regarding MVACs and video maps must be accomplished via email to 9-AJV-HQ-ATCPRODUCTS.**
NOTE through **e6**	No Change
7. ROC reductions should only be requested when there is a demonstrated operational need, and in no event will requested reductions result in an MVA that does not comply with 14 CFR 91.177.	**7.** ROC reductions should only be requested when there is a demonstrated operational need.

f. An assumed adverse obstacle (AAO) additive is required in areas not designated as mountainous (ROC 1,000 feet) and in designated mountainous terrain areas when any ROC reduction is requested.	No Change
g. Where an operational need is demonstrated and documented, managers are permitted to round a resulting MVA with an AAO additive to the nearest 100-foot increment, provided the minimum ROC is maintained for other non-AAO obstacles; for example, 3,049 feet rounds to 3,000 feet to support glide slope intercept requirements.	**g. Resultant MVAs may be rounded down to the nearest 100-foot increment (those that are xx49 feet or less), except in the following cases:**
Add	**1. Any locations outside of the Contiguous United States.**
Add	**2. Where any part of an MVA Sector is more than 65 NM from the issued altimeter source.**
Add	**3. When all of the following conditions are applicable:**
Add	**(a) the MVA Sector is within designated mountainous areas by 14 CFR Part 95,**
Add	**(b) the terrain is deemed precipitous by facility Air Traffic Management,**
Add	**(c) the previous 5 year average low temperature at the primary airport is documented to be less than the temperature shown in Table 3-8-1 for the amount of ROC reduction requested. Retain temperature documentation locally with approved 7210-9. Use Table 3-8-1 to determine the extent of mountainous terrain reduction permitted if rounding down, based on the average low temperature. Comply with the following process to determine the average low temperature.**
Add	**(1) Go to the National Climatic Data Center web site at www.NCDC.noaa.gov**
Add	**(2) Click on "Data Access" link on blue bar.**
Add	**(3) Click on "Land-Based Stations" on left column, then click "Climate Data Online."**
Add	**(4) Click on "Search Tool" link.**
Add	**(5) On the Search form, select Annual Summaries, and accept default fields, then enter primary airport identifier.**
Add	**(6) Click on "Airport Name" on left side of page.**
Add	**(7) Scroll to bottom of page and select the year for review.**

Add **(8) Select each relevant year, and document the Lowest Temperature for the year. This is the EMNT column, on the bottom row. Then calculate the 5–year average.**

Add **** Do not select Add to cart. All data is free if the internet proxy is set to AWA or AMC.**

Add

TBL 3-8-1

ROC Reduction/Temperature Table

Requested ROC Reduction	Minimum Average Low Temperature
100’	-40°C/-40°F
200’	-35°C/-31°F
300’	-30°C/-22°F
400’	-25°C/-13°F
500’	-20°C/-4°F
600’	-15°C/5°F
700’	-10°C/14°F
800’	-5°C/23°F
900’	0°C/32°F
1000’	7°C/45°F(2°C/36°F when MVA sector is within 35 NM of issued altimeter)

h. Managers requesting to waive criteria contained in FAA Order 8260.3, must submit FAA Form 8260-1, Flight Procedures/Standards Waiver in conjunction with the MVA project. This waiver form will contain the criteria requested to be waived, with the operational need fully explained, and examples of how the facility will achieve an equivalent level of safety, if approved. The package will be sent to the ATC Products Group through the Service Center OSG. Upon completion of the ATC Products Group review, the package will be forwarded to the Flight Procedure Implementation and Oversight Branch. For the Flight Standards Waiver process, facility managers do not need to complete a Safety Management System evaluation. An electronic copy of the completed waiver package must be sent to Terminal Safety and Operations Support.

h. Managers requesting to waive criteria contained in FAA Order 8260.3, must submit FAA Form 8260-1, Flight Procedures/Standards Waiver in conjunction with the MVA project. This waiver form will contain the criteria requested to be waived, with the operational need fully explained, and examples of how the facility will achieve an equivalent level of safety, if approved. The package will be sent to the ATC Products Group through the Service Center OSG. Upon completion of the ATC Products Group review, the package will be forwarded to the Flight Procedure Implementation and Oversight Branch. For the Flight Standards Waiver process, facility managers do not need to complete a Safety Management System evaluation. An electronic copy of the completed waiver package must be sent to **Operations Headquarters Directorate, AJT-2, at 9-AJT-2-HQ-AirTrafficOperations.**

i. MVAs must not be below the floor of controlled airspace and should provide a 300−ft buffer above the floor of controlled airspace. In some cases, this application will result in an exceptionally high MVA (for example, in areas where the floor of controlled airspace is 14,500 MSL). When operationally required to vector aircraft in underlying Class G (uncontrolled) airspace, 2 MVAs may be established. The primary MVA must be based on obstruction clearance and the floor of controlled airspace. A second, lower MVA that provides obstruction clearance only may be established. The obstruction clearance MVA must be uniquely identified; for example, by an asterisk (*). Do not consider buffer areas for controlled airspace evaluations.	No Change
j. If new charts prepared using SDAT create a significant impact on a facility's operation, the impact must be coordinated with ATO Terminal Safety and Operations Support for joint coordination with System Operations.	**j.** If new charts prepared using SDAT create a significant impact on a facility's operation, the impact must be coordinated with **Operations Headquarters Directorate, AJT-2,** for joint coordination with System Operations.
Paragraph j *NOTE* through **l**	No Change
m. Each request must indicate the MVAC was accomplished in SDAT and stored in the SDAT repository.	**m.** Each request must indicate the MVAC was accomplished in SDAT**,** stored in the SDAT repository **and when necessary, include a statement regarding the issued altimeter settings being within 65 NM of a rounded down sector and/or provides the 5−year average cold temperature**.
n. Each request must include the SDAT generated Form 7210-9 with the manager's signature and point of contact at the submitting facility. Form 7210-9 must also be an electronic copy with the manager's signature, and imported into the MVA project file. When applicable, each Form 7210-9 must include explanations/justifications for both ROC reduction and AAO additive rounding requests. The MVA request with the 7210-9 may be electronically forwarded to the OSG, but must be followed with a hard copy with original signatures. However, when the capability of electronic signatures is developed within SDAT, Form 7210-9 may be transmitted electronically between the facility, Service Center, and ATC Products Group in lieu of the paper process. SDAT will automatically store the approved MVAC package in the National Airspace System Resource (NASR).	**n.** Each request must include the SDAT generated Form 7210-9 with the manager's signature and point of contact at the submitting facility. Form 7210-9 must also be an electronic copy with the manager's signature, and imported into the MVA project file. When applicable, each Form 7210-9 must include explanations/justifications for ROC reduction requests. The MVA request with the 7210-9 **will** be electronically forwarded to the OSG. **W**hen the capability of electronic signatures is developed within SDAT, Form 7210-9 may be transmitted electronically between the facility, Service Center, and ATC Products Group in lieu of the paper process. SDAT will automatically store the approved MVAC package in the National Airspace System Resource (NASR).

o. For those facilities that use the SDAT program office for the development and maintenance of their MVACs, the SDAT program office personnel must be notified to complete the final submission step of the project within the repository when sending the MVAC request to the OSG.

o. All facilities must notify the SDAT program office personnel to complete the final submission step of the project within the repository when sending the MVAC request to the OSG.

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1. PARAGRAPH NUMBER AND TITLE:
6-9-1. GENERAL
6-9-5. NON-RVSM REQUIREMENTS

2. BACKGROUND: FAA JO 7210.3, Paragraph 6-9-1, b1, Note 1, and Paragraph 6-9-5b define certain excepted non-RVSM aircraft that may operate within RVSM airspace. Due to the duration of flight and distance between appropriate landing facilities, provisions have been made to allow for additional exceptions within the Oceanic and Offshore environment. In addition to those exceptions in said paragraphs, the following non-RVSM aircraft may operate within RVSM airspace while operating within oceanic airspace or transitioning to/from oceanic airspace: an aircraft being initially delivered to the State of Registry or Operator; an aircraft that was formerly RVSM–approved but has experienced an equipment failure and is being flown to a maintenance facility for repair in order to meet RVSM requirements and/or obtain approval; an aircraft being utilized for mercy or humanitarian purposes; within the Oakland, Anchorage, and Arctic FIRs an aircraft transporting a spare engine mounted under the wing.

3. CHANGE:

OLD	**NEW**
6-9-1. GENERAL	**6-9-1. GENERAL**
Title through **b1** ***NOTE 1e***	No Change
Add	***2. The following aircraft operating within oceanic airspace or transiting to/from oceanic airspace are excepted:***
Add	***a. Aircraft being initially delivered to the State of Registry or Operator;***
Add	***b. Aircraft that was formerly RVSM approved but has experienced an equipment failure and is being flown to a maintenance facility for repair in order to meet RVSM requirements and/or obtain approval;***
Add	***c. Aircraft being utilized for mercy or humanitarian purposes;***
Add	***d. Within the Oakland, Anchorage, and Arctic FIRs, an aircraft transporting a spare engine mounted under the wing.***
2. Aircraft not approved for RVSM operations may transition through RVSM airspace to operate above or below.	***3. Aircraft not approved for RVSM operations may transition through RVSM airspace to operate above or below.***

OLD	NEW
6-9-5. NON-RVSM REQUIREMENTS	**6-9-5. NON-RVSM REQUIREMENTS**
Title through **b**	No Change
Add	**c. Within oceanic airspace or transiting to/from oceanic airspace aircraft being initially delivered to the State of Registry or Operator, an aircraft that was formerly RVSM approved but has experienced an equipment failure and is being flown to a maintenance facility for repair in order to meet RVSM requirements and/or obtain approval; an aircraft being utilized for mercy or humanitarian purposes; and within the Oakland, Anchorage, and Arctic FIRs, an aircraft transporting a spare engine mounted under the wing will be accommodated in RVSM airspace on a workload permitting basis.**
c. Non−RVSM Exception Flights Inbound to U.S. The TMU at the facility where an aircraft penetrates RVSM airspace designated for U.S. air traffic control, or entry facility, receives the coordination from an international point−of−contact advising of an inbound non−RVSM exception. The TMU must coordinate with the operational supervisor/CIC in a timely manner.	**d.** Non−RVSM Exception Flights Inbound to U.S. The TMU at the facility where an aircraft penetrates RVSM airspace designated for U.S. air traffic control, or entry facility, receives the coordination from an international point−of−contact advising of an inbound non−RVSM exception. The TMU must coordinate with the operational supervisor/CIC in a timely manner.

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1. PARAGRAPH NUMBER AND TITLE: 10-4-9. SIMULTANEOUS CONVERGING INSTRUMENT APPROACHES

2. BACKGROUND: FAA Order 7110.98A, Simultaneous Converging Instrument Approaches (SCIA), has been in use since 1993 and was developed to provide a method of conducting converging approaches to minimums less than a ceiling of 1,000 feet or visibility less than 3 miles. The order also contains the method of identifying Converging ILS Approach procedures on approach plates. New generations of aircraft Flight Management System (FMS) systems are being installed in aircraft. The newer FMS systems cannot accept the current method of coding converging ILS approaches.

3. CHANGE:

OLD	NEW
Add	**10-4-9. SIMULTANEOUS CONVERGING INSTRUMENT APPROACHES**
Add	**a. The procedures to conduct Simultaneous Converging Instrument Approaches (SCIA) must be developed in accordance with the following paragraphs.**
Add	**1. The ATM must:**

Add	**(a) Determine that the volume and complexity of aircraft operations requires the use of simultaneous converging instrument approaches. Additionally, no adverse impact on the users or air traffic control facilities can result from the implementation of the procedure.**
Add	**(b) Coordinate with airport operations to ensure that runway intersection identification markings are in accordance with appropriate standards if the runways intersect.**
Add	**(c) Coordinate with the responsible Service Area Flight Procedures Team (FPT) through the service area Operations Support Group (OSG) for the feasibility of SCIA procedural design and the ability to achieve minimums sufficient to justify procedural development. The FPT must consider all aspects of the approach, including NAVAIDS, approach lighting, and airport lighting.**
Add	**(d) Prepare a staff study which includes:**
Add	**(1) Type of aircraft and user groups that will be involved in SCIA operations.**
Add	**(2) Anticipated effect on airport/ airspace capacity, including projected reductions in departure delays, airport acceptance rate, and projected savings in aircraft fuel consumption.**
Add	**(3) Daily time periods during which the procedure would be applied.**
Add	**(4) A preliminary environmental assessment in accordance with FAA Order 1050.1, Environmental Impacts: Policies and Procedures (See Paragraph 4-1-6, Preliminary Environmental Review).**
Add	**2. After completing steps 1 through 4 above, the ATM must:**
Add	**(a) Submit the request for SCIA operations, to include the completed staff study and a draft graphic of the ILS-Standard Instrument Approach Procedure, to their OSG for review.**
Add	**(1) The OSG must coordinate the procedure with the regional Flight Standards Division.**
Add	**(2) When approved, the OSG will process the package through the FPT for development.**

Add **(b) Develop a Letter to Airmen defining local procedures to be used at least 30 days before the effective date. Additional means of publicizing local procedures must be employed in accordance with Paragraph 4-2-4, Coordination of ATC Procedures.**

Add **b. The requirements for conducting SCIA operations to converging runways are:**

Add **1. Operational air traffic control radar.**

Add **2. Precision instrument approach procedures must be established on each runway.**

Add **3. Non–intersecting final approach courses.**

Add **4. SIAP specifically titled "Converging" and is published in parenthesis after the title of the procedure, for example, ILS V Rwy 17 (Converging).**

Add **(a) Missed approach points (MAP) must be at least 3 nautical miles (NM) apart, and**

Add **(b) Published missed approach procedures diverge by at least 45 degrees.**

Add **(c) The ATM must designate a primary and secondary runway for SCIA runway configurations including separation responsibility and procedures to be applied in the event a missed approach is initiated inside the MAP.**

Add **(d) Flight Procedures will determine the appropriate approach minimums for both primary and secondary runways for each SCIA configuration.**

Add **5. Converging approaches must not be conducted simultaneously to runways that intersect, when the ceiling is less than 1,000 feet or the visibility is less than 3 miles.**

Add **6. Converging approaches to runways that do not intersect may be conducted when the ceiling is less than 1,000 feet or visibility less than 3 miles provided all other conditions of this directive are met.**

Add **7. Application of this procedure to intersecting runways does not relieve the controller of the responsibility to provide intersecting runways separation as required in FAA Order 7110.65, paragraph 3-10-4.**

Add **8. A facility directive or letter of agreement must be developed specifying as a minimum:**

Add **(a) The runway configurations to be used during SCIA operations,**

Add	**(b) Separation responsibility and procedures, to be applied, in the event a missed approach is initiated inside the MAP,**
Add	**(c) Coordination requirements,**
Add	**(d) Weather minima applicable to each configuration, if different from published minima.**
Add	***NOTE–*** ***The ATM may establish higher minima than published on the SIAP to preclude, to the extent feasible, the possibility of a weather related missed approach.***
Add	**c. Authorize simultaneous instrument approaches to converging runways under the following conditions:**
Add	**1. Only straight-in approaches must be made.**
Add	**2. All appropriate communication, navigation, and surveillance systems are operating normally.**
Add	**3. Aircraft must be informed on initial contact, or as soon as possible, that simultaneous converging approaches are in use. Broadcasting this information on the ATIS satisfies this requirement.**
Add	**4. Weather activity that could impact the final approach courses must be closely monitored. Discontinue SCIA operations if weather trends indicate deteriorating conditions which would make a missed approach likely.**
Add	**d. Record any occurrence of simultaneous missed approaches while conducting SCIA on FAA Form 7230-4, Daily Record of Facility Operation and submit a mandatory occurrence report (MOR).**
Paragraph 10-4-9 through 10-4-11	Renumber 10-4-**10** through 10-4-**12**