ORDER

DSM ATCT 7110.1A

DES MOINES ATCT

STANDARD OPERATING PROCEDURES



November 15, 2024

VATSIM MINNEAPOLIS ARTCC

VIRTUAL AIR TRAFFIC SIMULATION NETWORK

This order prescribes air traffic control procedures and phraseology for use by Air Traffic Control Specialists at the Des Moines ATCT on the VATSIM network. Controllers are required to be familiar with the provisions of this order that pertain to their operational responsibilities and to exercise their best judgement if they encounter situations not covered by it.

Dhun Klun

Dhruv Kalra Air Traffic Manager VATSIM Minneapolis ARTCC

Order Record of Changes

Change	Description	Effective Date	Issued By
	Original Publication	Mar 17, 2020	DE
	Removal of deprecated voice channels. Readjusted DSM_APP/DSM_DEP wording in 2-1. Typo corrections.	Nov 15, 2024	DE

Paragraph	Page
Chapter 1. Introduction	5
1-1. PURPOSE	5
1-2. DISTRIBUTION	5
1-3. CANCELLATION	5
Chapter 2. General	6
2-1. DSM ATCT POSITIONS	6
2-2. COMBINING POSITIONS	6
2-3. RUNWAY UTILIZATION GUIDELINE	6
Chapter 3. DSM Airport Departure Procedures	7
3-1. INITIAL HEADINGS	7
3-2. VECTORS BELOW MINIMUM ALTITUDE	7
3-3. INITIAL ALTITUDES	7
3-4. DEPARTURE CORRIDOR	8
3-5. TRANSFER OF COMMUNICATION AND CONTROL	8
3-6. PREARRANGED COORDINATION PROCEDURES (P-ACP)	8
Chapter 4. DSM Airport Arrival Procedures	10
4-1. LAND AND HOLD SHORT OPERATIONS (LAHSO)	10
4-2. MISSED APPROACHES/GO-AROUNDS	10
4-3. TRANSFER OF COMMUNICATION AND CONTROL	10
Chapter 5. Tower Cab	11
5-1. CLEARANCE DELIVERY (CD)	11
5-2. GROUND CONTROL (GC)	11
5-3. LOCAL CONTROL	11
Chapter 6. TRACON	13
6-1. POSITIONS OF OPERATION	13
6-2. VIDEO MAP USAGE	13
Appendix 1. Operational Positions	14
Appendix 2. Runway Selection Wheel	15
Appendix 3. Airspace	16
FIG 1. NORTH CONFIGURATION	16
FIG 2. SOUTH CONFIGURATION	17
FIG 3. EAST CONFIGURATION	18
FIG 4. WEST CONFIGURATION	19
FIG 5. STRAIGHT RY5 CONFIGURATION	20
FIG 6. STRAIGHT RY13 CONFIGURATION	21
FIG 7. STRAIGHT RY23 CONFIGURATION	22
FIG 8. STRAIGHT RY31 CONFIGURATION	23
FIG 9. ADJACENT FACILITY AND ENTRY-EXIT FIX BOUNDARIES	24

Chapter 1. Introduction

1-1. PURPOSE

This order contains standard operating procedures for maintaining a safe and efficient operation and the jurisdictional boundaries for each operational position at Des Moines Airport Traffic Control Tower (ATCT). Controllers are required to be familiar with the provisions of this order in addition to the procedures contained in FAA Order 7110.65 and all applicable VATSIM/VATUSA directives. Personnel are expected to use their best judgement when encountering situations not specifically covered by this order.

1-2. DISTRIBUTION

This order is distributed to all VATSIM Minneapolis ARTCC controllers.

1-3. CANCELLATION

This order cancels vZMP Air Traffic Operations Manual Vol. 2., Air Traffic Control Standard Operating Procedures, Rev. 7., Section 4.7 Des Moines Airport – Des Moines, IA (KDSM).

Chapter 2. General

2-1. DSM ATCT POSITIONS

Controllers operating DSM ATCT positions must configure their radar client frequencies, callsigns, and voice channels as follows.

Position Name	Frequency	STARS ID	Callsign
Clearance Delivery	134.150		DSM_DEL
Ground Control	121.900		DSM_GND
Local Control	118.300	Т	DSM_TWR
ATIS	119.550		KDSM_ATIS
Departure Radar (DR)	123.900	D	DSM_DEP/DSM_APP*
Arrival Radar (AR)	135.200	A	DSM_A_APP
Satellite Radar (SR)	118.600	S	DSM_S_APP

*All radar positions combine to DR. When TRACON airspace is staffed by a single controller controllers should log in under the AR/DR position in CRC.

2-2. COMBINING POSITIONS

a. Combine positions in accordance with Appendix 1, Operational Positions.

2-3. RUNWAY UTILIZATION GUIDELINE

Reference Appendix 2 for preferred runway flows at DSM.

Chapter 3. DSM Airport Departure Procedures

3-1. INITIAL HEADINGS

Assign initial headings to all aircraft in accordance with the following:

- a. Non-turbojet: Any heading that ensures aircraft will track through the departure corridor.
- b. Turbojet: Runway heading or:
 - 1. RY5: Any heading that ensures aircraft will track through the departure corridor.
 - 2. RY23: Any heading from runway heading clockwise to the right side of the deparature corridor.
 - 3. RY31: Aircraft requiring a left turn on course shall be issued 270° when ½ mile beyond the departure end. If LC cannot provide visual separation between the departure and RY5 arrivals, these aircraft shall be issued runway heading.
- c. Restriction of early turns departing all runways. All aircraft will be directed to fly runway heading until reaching 1500 ft. or the runway end. The Terminal Building shall not be overflown.

3-2. VECTORS BELOW MINIMUM ALTITUDE

For the purpose of applying FAA Order 7110.65 procedures which allow primary airport departure and missed approach aircraft to be vectored below the minimum altitude required for IFR operations, prominent obstructions are depicted on the video map. Obstruction heights in MSL are depicted on the Emergency Video Map. In addition, IFR aircraft departing Runway 31 and Runway 5 are restricted from the following turns due to the height of the Principal Building in downtown Des Moines.

- a. Runway 31: Do not turn aircraft right to a heading past 360 degrees until the aircraft leaves 1,500 feet MSL.
- b. Runway 5: Do not turn aircraft left until the aircraft leaves 1,500 feet MSL.

3-3. INITIAL ALTITUDES

- a. IFR: Issue the requested altitude or 5000 ft., whichever is lower.
- b. VFR:
 - 1. Issue 5,000 feet or requested altitude if lower.
 - 2. If requested altitude is below 3,000 issue "at or below 3000."
- c. SVFR: Issue "SVFR at or below 3,000."

3-4. DEPARTURE CORRIDOR

- a. Only one departure corridor is active at a time. An off-runway operation does not activate a new or additional departure corridor.
- b. Aircraft inside the corridor operate immediately adjacent to the side lateral boundaries from the surface up to the ceiling of the corridor.
- c. Adjacent positions shall maintain 3 miles separation from the side lateral boundaries.
- d. Adjacent positions shall maintain standard 1 ¹/₂-mile separation from the range mark boundary.

3-5. TRANSFER OF COMMUNICATION AND CONTROL

- a. Transfer of communications should take place no later than ¹/₂-mile off the departure end of the runway.
- b. Transfer of control from the tower to TRACON for departing aircraft shall be 1,500 ft. MSL for:
 - 1. Altitude: Climb.
 - 2. Heading: Unless verbally restricted by LC, the TRACON may turn a departure away from the extended runway centerline in the direction associated with the route of flight prior to exiting LC's airspace.

3-6. PREARRANGED COORDINATION PROCEDURES (P-ACP)

- a. DR is authorized to penetrate the 1 ¹/₂ mile airspace buffers:
 - 1. Beginning where the departure corridor end is adjacent to AR airspace (see FIGS 3-1 through 3-4); and,
 - 2. Along the common AR/departure corridor boundary from the ceiling of the corridor up to and including 10,000 ft.
- b. DR is authorized to penetrate these buffers when:
 - 1. AR is Quick-Looking DR.
 - 2. The target is displaying a full data block.
 - 3. The aircraft will maintain a course that is parallel to or diverging from the common AR/departure corridor boundary until standard separation from AR's side boundary is established (see FIGS 3-1 through 3-4).

FIG 3-1 – North P-ACP Area







FIG 3-3 – East P-ACP Area



FIG 3-4 – West P-ACP Area



Chapter 4. DSM Airport Arrival Procedures

4-1. LAND AND HOLD SHORT OPERATIONS (LAHSO)

The following table illustrates Land and Hold Short Operations (LAHSO) Dry, Day-Night, GA to GA parameters.

Landing Runway	Hold Short of RWY	Available Landing Distance	Aircraft LAHSO
		(ALD)	Group
13	5/23	5950	1, 2, 3, 4, 5, 6
5	13/31	6350	1, 2, 3, 4, 5, 6, 7

4-2. MISSED APPROACHES/GO-AROUNDS

- a. LC must:
 - 1. Unless otherwise coordinated, instruct aircraft that execute a missed approach/goaround to fly runway heading or the heading to establish initial separation within the departure corridor and maintain 3,000 feet. Prepare and forward a departure strip to the receiving radar position in a timely manner, as appropriate.

4-3. TRANSFER OF COMMUNICATION AND CONTROL

- a. Transfer communications to:
 - 1. AR: As soon as possible
 - 2. LC: Within 15 miles of the airport and prior to LC airspace.
- b. Transfer of control on initial contact for:
 - 1. AR:
 - a. Altitude: Descent.
 - b. Heading: May turn an aircraft up to 30 degrees away from the assigned heading/route or toward the airport.
 - c. Speed: Any.
 - 2. LC: May change the assigned runway and/or issue speed adjustments without coordinating with the TRACON, except when such action will adversely impact the flow or spacing of succeeding arrivals or conflict with any other TRACON controlled traffic.

Chapter 5. Tower Cab

5-1. CLEARANCE DELIVERY (CD)

- a. Prepare DSM departure flight progress strips.
- b. Issue clearances in accordance with FAAO 7110.65. Additionally:
 - 1. Issue IFR departures the DSM Instrument Departure or equivalent instructions.
 - 2. Assign all VFR aircraft runway heading.
 - 3. Issue altitudes in accordance with Section 3-3.

5-2. GROUND CONTROL (GC)

- a. Surface jurisdiction: all movement areas except the active runway(s).
- b. Review flight progress strips received from CD for completeness and accuracy. Make corrections as necessary.
- c. Inform LC of aircraft that plan to remain in the pattern.

5-3. LOCAL CONTROL

- a. Local Control is responsible for the following airspace:
 - 1. Basic: 3000 ft. and below from the ASR to the 5-mile rank mark.
 - 2. The active departure corridor: An extension of LC's basic airspace associated with the advertised departure runway. Its dimensions are:
 - a. Vertical: 5000 ft. and below.
 - b. Lateral: 20° radii either side of the centerline originating at the threshold of the runway to the 10-mile range mark. The left side of the RY31 corridor intersects the 270° bearing off the departure end of that runway and continues westward to the 10-mile range mark.
 - 3. Surface jurisdiction: All active runway(s).
 - 4. Coordinate any local traffic that may not be retained within tower's airspace.
 - 5. Apply Land and Hold Short Operations in accordance with Section 4-1.

- 6. Line Up and Wait Operations are authorized at Des Moines (DSM) International Airport in accordance with FAA Order 7110.65 and the following conditions:
 - a. Procedures
 - 1. At no time are aircraft authorized to simultaneously line up and wait on the same runway.
 - 2. LC shall not allow two aircraft to Line Up and Wait simultaneously on crossing runways.
 - 3. Aircraft are not authorized to line up and wait at an intersection between sunset and sunrise.
- 7. Multiple runway crossings at Taxiways Papa/Delta and Romeo/Romeo3 are approved for aircraft waiving the provisions in FAAO 7110.65 para 3-7-2.c.



Chapter 6. TRACON

6-1. POSITIONS OF OPERATION

- a. Arrival Radar (AR)
 - 1. Must be responsible for:
 - a. Sequencing and separation of DSM arrivals and all aircraft within delegated airspace.
 - b. Satellite airports in AR airspace.
- b. Departure Radar (DR)
 - 1. Must be responsible for:
 - a. Separation of DSM departures and all aircraft within the (DR) delegated airspace.
 - b. Satellite airports in DR airspace.
 - c. Responsible for that airspace not delegated to LC, AR, or SR.
- c. Satellite Radar (SR)
 - 1. Must be responsible for:
 - a. Sequencing and separation of traffic within the SR delegated airspace.
 - b. Issue 4,000 feet initially to all airports in SR delegated airspace.
- d. Depicted airspace diagrams are found in Appendix 3.

6-2. VIDEO MAP USAGE

One departure map must be selected, along with one arrival map. Additionally, one of the 60-mile maps (e.g. intersections/airports) must be selected. All other maps at the discretion of the controller.

Appendix 1. Operational Positions TOWER CAB $CD \rightarrow GC \rightarrow LC$

RACON

Appendix 2. Runway Selection Wheel



180

Appendix 3. Airspace

FIG 1. NORTH CONFIGURATION

















FIG 9. ADJACENT FACILITY AND ENTRY-EXIT FIX BOUNDARIES

