

Virtual Minneapolis Air Route  
Traffic Control Center  
“vZMP ARTCC”

Air Traffic Operations Manual

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Volume 2 – Air Traffic Control  
Standard Operating Procedures  
(ATCSOP)

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## Preface

The Air Traffic Control Standard Operating Procedures manual (ATCSOP) is Volume 2 of the vZMP Air Traffic Operations Manual – a library of controlled documents, which contain all administrative and operational policies and procedures for the Virtual Minneapolis Air Route Traffic Control Center (vZMP).

The ATCSOP will be used as the sole reference concerning the operation of any air traffic control facility within the Virtual Minneapolis Air Route Traffic Control Center (vZMP). Oversight of the ATCSOP is the responsibility of the Air Traffic Manager, the Facility Leads, and other designee(s).

Controlled documents are publications that have certain procedures for distribution and record keeping. The object is to keep all persons who have a copy of this document current with any ongoing changes and revisions. This is accomplished through a revision and bulletin system.

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Should any questions arise out of the use of this document, please address them to:

Dhruv Kalra  
Air Traffic Manager  
VATSIM Minneapolis ARTCC  
[atm@minniecenter.org](mailto:atm@minniecenter.org)

## SECTION 1

### Minneapolis Satellite Airport ATCT Facility Group Standard Operating Procedures

#### 1.1 Purpose

The Minneapolis Satellite Airport ATCT SOP defines a uniform set of procedures for all controllers to follow while working positions in the Air Traffic Control Towers of the Minneapolis Satellite Airport Group (KFCM, KMIC, KANE, and KSTP).

#### 1.2 Pre-requisites and Position Restrictions

All airports in this group are designated minor airports. Controllers will be permitted to work tower cab positions at all airports within this group once the appropriate VATSIM rating has been obtained.

#### 1.3 Departure Coordination

##### Aircraft on IFR Flight Plans

All IFR departures shall be coordinated with the higher controlling position from the ATCT, if staffed (i.e. MSP\_APP or MSP\_CTR). The coordination shall include IFR clearance and release instructions to be relayed to the aircraft.

Before an IFR departure occurs, the TWR controller shall contact the higher controlling position via G/G communication or text messaging to obtain IFR release.

IFR Release Coordination and Communication Example:

1. Aircraft calls ready for departure:

*"Flying Cloud Tower, King Air 2323F ready for departure 10R"*

2. Advise aircraft to hold awaiting IFR release:

*"King Air 2323F, Flying Cloud Tower, hold short awaiting IFR release"*

3. Contact higher controlling position for IFR release via G/G or text message:

*"Minneapolis Approach, Flying Cloud Tower, IFR release for N2323F, runway 10R" (or similar)*

4. IFR Release is granted (approach responds):

*"N2323F is released, depart runway 10R heading 180, void if not off in 5 minutes..KP"*

5. Takeoff clearance given to aircraft:

*"N2323F, wind 090 at 6, fly heading 180 on departure, runway 10R cleared for takeoff"*

6. Ensure positive communication handoff (after altitude change and heading change is confirmed):

*"N2323F contact Minneapolis Approach now on 119.3, good day!"*



**1.4 Minneapolis – Flying Cloud Airport (KFCM)****1.4.1 Communications****1.4.1.1 Frequencies**

The following frequencies are the ONLY frequencies allowed to be used in the KFCM Tower Cab. Your default voice server should be: *voice.downstairsgeek.com*. Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

<b><i>Position Name</i></b>	<b><i>Frequency</i></b>	<b><i>Callsign</i></b>	<b><i>Voice Channel</i></b>
Flying Cloud ATIS	124.900	KFCM_ATIS	
Flying Cloud Ground	121.700	FCM_GND	fcm_121.70
Flying Cloud Tower	118.100	FCM_TWR	fcm_118.10

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

**1.4.1.2 ATIS (Automated Terminal Information System)**Voice ATIS

Voice ATIS broadcasts for KFCM can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

Position ATIS

Every KFCM Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

- Position
- Current ATIS Letter ID
- Active Runways

Some other ATIS elements to consider including are:

- Current weather (or time of current weather report being used to determine field conditions)
- Types of Approaches in Use
- Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

#### **1.4.2 Airport Layout / Runway Configuration**

KFCM has six (6) designated runways on three (3) landing surfaces. Here is a quick description of each surface:

10R/28L – 3909x75; primary runway, parallel runway; used for all operations 24 hrs a day

10L/28R – 3599x75; parallel runway; used for all operations, but is secondary runway; CLOSED WHEN ATCT IS CLOSED

18/36 – 2691x75; secondary runway; used for all operations

#### **1.4.3 Active Runway Selection**

Wind conditions will primarily determine runway selection at KFCM. Pilots may request alternative runway selection.

#### **1.4.4 Airspace Layout**

KFCM lies within Class D airspace. The lateral limit is a 3.5 nm radius, and the vertical limit is 3400' MSL. The limits of the Class D extend into the KMSP Class B airspace at the 8.5DME/2300' MSL ring, and the 12DME/3000' MSL ring. Controllers working KFCM positions shall remain cognizant of VFR aircraft requesting Class B entry from the Flying Cloud airport, and make proper coordination with higher controlling positions (i.e. MSP\_APP or MSP\_CTR).

When the KFCM ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the lateral limits of the airport traffic area, airspace is Class E (controlled).

#### **1.4.5 TRACON Procedures**

The M98 TRACON unit is responsible for radar services at KFCM. When positions are not staffed at M98 TRACON, ZMP Center controllers will be responsible for radar services at KFCM. The following procedures will be followed for certain radar services at KFCM:

##### IFR Release, Arrival, and Departure Coordination

Radar controllers will utilize procedures outlined in 2.12.2-2.12.5, and 3.3 of this manual.

### Instrument Approach Procedures (IAPs)

Radar controllers will provide radar services to maintain IFR separation for traffic arriving on IAPs to KFCM. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at KFCM, unless the pilot requests an “own nav” approach, or unless workload prevents the provision of vectors. In the latter instance, pilots will be assigned IAP clearance via pilot navigation.

The following IAPs are authorized at KFCM:

ILS OR LOC RWY 10R  
RNAV (GPS) RWY 28L  
RNAV (GPS) RWY 28R  
RNAV (GPS) RWY 36  
VOR RWY 10R  
VOR RWY 36  
COPTER ILS OR LOC RWY 10R

### Arrivals via STARs

KFCM arrivals are allowed to enter the KMSP terminal area enroute to KFCM via the GOPHER-STAR, and the TWOLF-STAR. Radar controllers shall provide radar vectors to flow arrivals off their respective STAR and to an IAP or visual approach as soon as practical.

**1.5 Minneapolis – Crystal Airport (KMIC)**

**1.5.1 Communications**

**1.5.1.1 Frequencies**

The following frequencies are the ONLY frequencies allowed to be used in the KMIC Tower Cab. Your default voice server should be: *voice.downstairsgeek.com* Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

<i><b>Position Name</b></i>	<i><b>Frequency</b></i>	<i><b>Callsign</b></i>	<i><b>Voice Channel</b></i>
Crystal ATIS	127.000	KMIC_ATIS	
Crystal Ground	121.600	MIC_GND	mic_121.60
Crystal Tower	120.700	MIC_TWR	mic_120.70

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

**1.5.1.2 ATIS (Automated Terminal Information System)**

Voice ATIS

Voice ATIS broadcasts for KMIC can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

Position ATIS

Every KMIC Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

- Position
- Current ATIS Letter ID
- Active Runways

Some other ATIS elements to consider including are:

- Current weather (or time of current weather report being used to determine field conditions)
- Types of Approaches in Use
- Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

### **1.5.2 Airport Layout / Runway Configuration**

KMIC has eight (8) designated runways on four (4) landing surfaces. Here is a quick description of each surface:

14L/32R – 3263x75; primary runway, parallel runway; used for all operations 24 hrs a day

14R/32L – 3266x75; parallel runway; used for all operations, but is secondary runway; CLOSED WHEN ATCT IS CLOSED

6L/24R – 2499x75; secondary runway; used for all operations

6R/24L – 2122x202; TURF runway; closed November through April

### **1.5.3 Active Runway Selection**

Wind conditions will primarily determine runway selection at KMIC. Alternative runway selection may be requested by pilots.

### **1.5.4 Airspace Layout**

KMIC lies within Class D airspace. The lateral limit is a 4 nm radius, and the vertical limit is 3400' MSL. The limits of the Class D extend into the KMSP Class B airspace at the 12DME/3000' MSL ring. Controllers working KMIC positions shall remain cognizant of VFR aircraft requesting Class B entry from the Crystal airport, and make proper coordination with higher controlling positions (i.e. MSP\_APP or MSP\_CTR).

When the KMIC ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the lateral limits of the airport traffic area, airspace is Class E (controlled).

### 1.5.5 TRACON Procedures

The M98 TRACON unit is responsible for radar services at KMIC. When positions are not staffed at M98 TRACON, ZMP Center controllers will be responsible for radar services at KMIC. The following procedures will be followed for certain radar services at KMIC:

#### IFR Release, Arrival, and Departure Coordination

Radar controllers will utilize procedures outlined in 2.12.2-2.12.5, and 3.3 of this manual.

#### Instrument Approach Procedures (IAPs)

Radar controllers will provide radar services to maintain IFR separation for traffic arriving on IAPs to KMIC. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at KMIC, unless the pilot requests an "own nav" approach, or unless workload prevents the provision of vectors. In the latter instance, pilots will be assigned IAP clearance via pilot navigation.

The following IAPs are authorized at KMIC:

VOR OR GPS-A  
GPS RWY 14L

#### Arrivals via STARs

KMIC arrivals are allowed to enter the KMSP terminal area enroute to KMIC via the GOPHER-STAR, and the TWOLF-STAR. Radar controllers shall provide radar vectors to flow arrivals off their respective STAR and to an IAP or visual approach as soon as practical.

**1.6 Anoka County – Blaine Airport (KANE)****1.6.1 Communications****1.6.1.1 Frequencies**

The following frequencies are the ONLY frequencies allowed to be used in the KANE Tower Cab. Your default voice server should be: *voice.downstairsgeek.com* Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

<b><i>Position Name</i></b>	<b><i>Frequency</i></b>	<b><i>Callsign</i></b>	<b><i>Voice Channel</i></b>
Anoka ATIS	120.625	KANE_ATIS	
Anoka Ground	121.850	ANE_GND	ane_121.85
Anoka Tower	126.050	ANE_TWR	ane_126.05

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

**1.6.1.2 ATIS (Automated Terminal Information System)**Voice ATIS

Voice ATIS broadcasts for KANE can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

Position ATIS

Every KANE Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

- Position
- Current ATIS Letter ID
- Active Runways

Some other ATIS elements to consider including are:

- Current weather (or time of current weather report being used to determine field conditions)
- Types of Approaches in Use
- Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

### **1.6.2 Airport Layout / Runway Configuration**

KANE has four (4) designated runways on two (2) landing surfaces. Here is a quick description of each surface:

9/27 – 5000x100; primary runway; used for all operations 24 hrs a day

18/36 – 4855x100; primary runway; used for all operations 24 hrs a day

### **1.6.3 Active Runway Selection**

Wind conditions will primarily determine runway selection at KANE. Alternative runway selection may be requested by pilots.

### **1.6.4 Airspace Layout**

KANE lies within Class D airspace. The lateral limit is a 4 nm radius, and the vertical limit is 3400' MSL. The limits of the Class D are in proximity of KMSP Class B airspace. Controllers working KANE positions shall remain cognizant of VFR aircraft requesting Class B entry from the Anoka airport, and make proper coordination with higher controlling positions (i.e. MSP\_APP or MSP\_CTR).

When the KANE ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the lateral limits of the airport traffic area, airspace is Class E (controlled).

### **1.6.5 TRACON Procedures**

The M98 TRACON unit is responsible for radar services at KANE. When positions are not staffed at M98 TRACON, ZMP Center controllers will be responsible for radar services at KANE. The following procedures will be followed for certain radar services at KANE:

#### IFR Release, Arrival, and Departure Coordination

Radar controllers will utilize procedures outlined in 2.12.2-2.12.5, and 3.3 of this manual.

#### Instrument Approach Procedures (IAPs)

Radar controllers will provide radar services to maintain IFR separation for traffic arriving on IAPs to KANE. Radar vectors will be utilized to aid pilots requesting IAPs for



arrival at KANE, unless the pilot requests an “own nav” approach, or unless workload prevents the provision of vectors. In the latter instance, pilots will be assigned IAP clearance via pilot navigation.

The following IAPs are authorized at KANE:

ILS OR LOC/DME RWY 27  
RNAV (GPS) RWY 27  
VOR/DME RNAV OR GPS RWY 18  
VOR/DME RWY 27  
VOR OR GPS RWY 09

#### Arrivals via STARs

KANE arrivals are allowed to enter the KMSP terminal area enroute to KANE via the GOPHER-STAR, and the TWOLF-STAR. Radar controllers shall provide radar vectors to flow arrivals off their respective STAR and to an IAP or visual approach as soon as practical.

**1.7 St. Paul Downtown – Holman Field Airport (KSTP)****1.7.1 Communications****1.7.1.1 Frequencies**

The following frequencies are the ONLY frequencies allowed to be used in the KSTP Tower Cab. Your default voice server should be: *voice.downstairsgeek.com* Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

<b><i>Position Name</i></b>	<b><i>Frequency</i></b>	<b><i>Callsign</i></b>	<b><i>Voice Channel</i></b>
St. Paul ATIS	118.350	KSTP_ATIS	
St. Paul Ground	121.675	STP_GND	stp_121.67
St. Paul Tower	119.100	STP_TWR	stp_119.10

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

**3.7.1.2 ATIS (Automated Terminal Information System)**Voice ATIS

Voice ATIS broadcasts for KSTP can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

Position ATIS

Every KSTP Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

- Position
- Current ATIS Letter ID
- Active Runways

Some other ATIS elements to consider including are:

- Current weather (or time of current weather report being used to determine field conditions)
- Types of Approaches in Use
- Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

### **1.7.2 Airport Layout / Runway Configuration**

KSTP has six (6) designated runways on two (3) landing surfaces. Here is a quick description of each surface:

14/32 – 6711x150; primary runway; used for all operations 24 hrs a day

13/31 – 4115x150; secondary runway; used for all operations 24 hrs a day

9/27 – 3657x100; CLOSED INDEFINATELY (as of this revision)

### **1.7.3 Active Runway Selection**

Wind conditions will primarily determine runway selection at KSTP. Pilots may request alternative runway selection.

### **1.7.4 Airspace Layout**

KSTP lies within Class D airspace. The lateral limit is a 4 nm radius, and the vertical limit is 3200' MSL. The limits of the Class D are actually "carved out" on the southwestern third of the radius for the KMSP Class B airspace. Controllers working KSTP positions shall remain cognizant of VFR aircraft requesting Class B entry from the St. Paul Downtown airport, and make proper coordination with higher controlling positions (i.e. MSP\_APP or MSP\_CTR).

When the KSTP ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the lateral limits of the airport traffic area, airspace is Class E (controlled).

### **1.7.4 TRACON Procedures**

The M98 TRACON unit is responsible for radar services at KSTP. When positions are not staffed at M98 TRACON, ZMP Center controllers will be responsible for radar services at KSTP. The following procedures will be followed for certain radar services at KSTP:

IFR Release, Arrival, and Departure Coordination

Radar controllers will utilize procedures outlined in 2.12.2-2.12.5, and 3.3 of this manual.

Instrument Approach Procedures (IAPs)

Radar controllers will provide radar services to maintain IFR separation for traffic arriving on IAPs to KSTP. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at KSTP at all times.

The following IAPs are authorized at KSTP:

ILS RWY 14  
ILS RWY 32  
RNAV (GPS) RWY 14  
RNAV (GPS) RWY 32  
NDB RWY 31  
COPTER ILS RWY 32

Arrivals via STARs

KSTP arrivals are allowed to enter the KMSP terminal area enroute to KSTP via the GOPHER-STAR, and the TWOLF-STAR. Radar controllers shall provide radar vectors to flow arrivals off their respective STAR and to an IAP or visual approach as soon as practical.

**END OF SECTION**

**SECTION 2****Gopher State Facility Group Standard Operating Procedures****2.1 Purpose**

The Gopher State Standard Operating Procedures defines a uniform set of procedures for all controllers to follow while working positions in the ATC facilities of the Gopher State Facility Group. The airports/facilities below are included in the Gopher State Facility Group:

<b>Identifier</b>	<b>Location</b>	<b>Facility</b>	<b>Major/Minor Classification</b>
KRST	Rochester, MN	Class D TRACON	Minor
KDLH	Duluth, MN	Class D TRACON	Minor
KSTC	St. Cloud, MN	Class D ATCT	Minor
KRYM	Camp Ripley, MN	Class D ATCT	Minor

**2.2 Departure Coordination**Aircraft on IFR Flight Plans

All IFR departures shall be coordinated with the higher controlling position from the ATCT, if staffed (i.e. DLH\_APP or MSP\_CTR). The coordination shall include IFR clearance and release instructions to be relayed to the aircraft.

Before an IFR departure occurs, the TWR controller shall contact the higher controlling position via G/G communication or text messaging to obtain IFR release.

IFR Release Coordination and Communication Example:

1. Aircraft calls ready for departure:

*“Duluth Tower, King Air 2323F ready for departure runway 36”*

2. Advise aircraft to hold awaiting IFR release:

*“King Air 2323F, Duluth Tower, hold short awaiting IFR release”*

3. Contact higher controlling position for IFR release via G/G or text message:

*“Minneapolis Center, Duluth Tower, IFR release for N2323F, runway 36” (or similar)*

4. IFR Release is granted (center responds):

*“N2323F is released, depart runway 36 heading 330, void if not off in 5 minutes..KP”*

5. Takeoff clearance given to aircraft:

*“N2323F, wind 360 at 6, fly heading 330 on departure, runway 36 cleared for takeoff”*

6. Ensure positive communication handoff (after altitude change and heading change is confirmed):

*“N2323F contact Minneapolis Center now on 133.40, good day!”*

**2.4 Rochester International Airport (KRST)**

**2.4.1 Communications**

**2.4.1.1 Frequencies**

The following frequencies are the ONLY frequencies allowed to be used in the KRST Tower Cab. Your default voice server should be: *voice.downstairsgeek.com* Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

<b>Position</b>	<b>Frequency</b>	<b>Callsign</b>	<b>Voice Channel</b>
Rochester ATIS	120.500	KRST_ATIS	
Rochester Ground	121.900	RST_GND	rst_121.90
Rochester Tower	118.300	RST_TWR	rst_118.30
Rochester Approach	119.800	RST_APP or RST_E_APP	rst_119.80
Rochester Approach* (secondary, events use only)	119.200	RST_W_APP	rst_119.20

\*Auxiliary approach frequency (119.200) is used real-world when necessary, usually for aircraft with special approach needs at outlying airports or when aircraft requires/utilizes no-gyro turns and approaches.

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

**2.4.1.2 ATIS (Automated Terminal Information System)**

Voice ATIS

Voice ATIS broadcasts for KRST can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

Position ATIS

Every KRST Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

- Position
- Current ATIS Letter ID

## Active Runways

Some other ATIS elements to consider including are:

Current weather (or time of current weather report being used to determine field conditions)

Types of Approaches in Use

Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

### **2.4.2 Airport Layout / Runway Configuration**

KRST has four (4) designated runways on two (2) landing surfaces. Here is a quick description of each surface:

13/31 – 9033 x 150 foot runway. Primary runway with ILS on both ends.

02/20 – 7300 x 150 foot runway. Secondary crosswind runway, VOR approach available

### **2.4.3 Active Runway Selection**

Whenever possible, 13 or 31 should be used. When winds are less than 9 knots the runway shall be either 13 or 31 depending on which one is more closely aligned with the wind direction. Beyond 9 knots, use the runway most aligned with the winds. During off-peak hours and calm winds, use the most convenient runway for pilots and general operations.

### **2.4.4 IFR Departures**

For IFR flights you should assign initial altitudes per Approach's discretion, or:

5,000 for props

8,000 for jets

There are no SIDs/STARs at KRST.

All departures to KMSP should be routed as follows: V24 KASPR KASPR3. The maximum altitude for this route is 12,000' MSL.



**2.4.5          Airspace Layout**

KRST lies within Class D airspace. The lateral limit is a 5 nm radius, and the vertical limit is 3800' MSL. When the KRST ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the lateral limits of the airport traffic area, airspace is Class E (controlled).

**2.4.6          TRACON Procedures**

Rochester Approach is responsible for the airspace around KRST, including IFR Release, Arrival, and Departure Coordination at KRST and the following fields:

KTOB (Dodge Center, MN)  
55Y (Rushford, MN)  
KOWA (Owatonna, MN)  
KAUM (Austin, MN)  
KAEL (Albert Lea, MN)  
2C4 (Chatfield, MN)  
KFKA (Preston, MN)

Rochester Approach controls airspace from the vertical limits of Class E, G, and Delta airspace(s) up to 15,000' MSL. West of the boundary depicted on all sector files, Rochester Approach controls airspace up to and including 9,000. 15,000 is the highest transition altitude given to IFR turbojet departures from all RST Terminal Area airports unless prior coordination with Center occurs. For propeller-driven aircraft, a lower transition altitude of 12,000 shall be observed. IFR departures to Minneapolis and to the west shall be given 9,000 or an altitude coordinated with Minneapolis Center.

Minimum Vectoring Altitudes – A general altitude to use as the MVA in all areas of Rochester Approach is 2,600' MSL.

Instrument Approach Procedures (IAPs)

Radar controllers will provide radar services to maintain IFR separation for traffic arriving on IAPs to KRST. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at KRST at all times.

*The following IAPs are authorized at KRST:*

ILS OR LOC 31  
ILS OR LOC 13  
VOR 2  
VOR/DME 20  
RNAV/GPS 13  
RNAV/GPS 31  
RNAV/GPS 2  
RNAV/GPS 20  
COPTER ILS OR LOC 31

In addition, the following IAPs are available for satellite airports:

*KTOB (Dodge County):*

GPS 34

GPS-A or VOR (all runways)

*KOWA (Owatonna)*

ILS 30

RNAV/GPS 12

VOR/DME 30

VOR 12

*KAEL (Albert Lea)*

RNAV/GPS 34

RNAV/GPS 16

VOR/DME 16

VOR 34

*KAUM (Austin)*

VOR OR GPS-A

VOR OR GPS 17

VOR OR GPS 35

*KFKA (Fillmore County)*

GPS 29

#### Coordination with ZMP and M98

KASPR turboprop arrivals into KMSP may enter into Rochester Approach-delegated airspace and may be handed off to Rochester Approach when necessary. Rochester Approach should be prepared to tell aircraft to cross DELZY at maintain 7,000 and ensure that they are separated as necessary from other traffic.

**2.5 Duluth International Airport (KDLH)****2.5.1 Communications****2.5.1.1 Frequencies**

The following frequencies are the ONLY frequencies allowed to be used in the KDLH Tower Cab. Your default voice server should be: *voice.downstairsgeek.com*. Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

<b><i>Position Name</i></b>	<b><i>Login Name</i></b>	<b><i>Frequency</i></b>	<b><i>Voice Channel</i></b>
Duluth ATIS	KDLH_ATIS	124.100	
Duluth Ground	DLH_GND	121.900	dlh_121.90
Duluth Tower	DLH_TWR	118.300	dlh_118.30
Duluth Approach	DLH_APP	125.450	dlh_125.45

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

**2.5.1.2 ATIS (Automated Terminal Information System)**Voice ATIS

Voice ATIS broadcasts for KDLH can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

Position ATIS

Every KDLH Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

- Position
- Current ATIS Letter ID
- Active Runways

Some other ATIS elements to consider including are:

- Current weather (or time of current weather report being used to determine field conditions)
- Types of Approaches in Use
- Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

### **2.5.2 Airport Layout / Runway Configuration**

KDLH has four (4) designated runways on two (2) landing surfaces. Here is a quick description of each surface:

9/27 – 10152x150' primary runway, used for all major air carrier operations

3/21- 5720x150' secondary runway, used for mainly general aviation operations.

### **2.5.3 Active Runway Selection**

When winds at KDLH are calm, you should use runway 9 as a designated calm wind runway unless a pilot requests a different runway. When winds are below 9 knots, select either 9 or 27 depending on which is closer to the wind direction. Beyond 9 kts, 3/21 may be used as a primary when winds dictate, however, remember that larger aircraft will probably require runway 9/27.

### **2.5.4 IFR and VFR Clearances**

DLH GND (or TWR when GND offline) shall be in charge of all IFR clearances to aircraft. The following should be used for initial altitudes, unless prior coordination with the Departure controller is realized:

Prop aircraft: 4,000 after departure

Jet aircraft: 9,000 after departure

As it is Class Delta airspace, VFR departures do not require a clearance or a discrete squawk code. Ground shall taxi them to the active runway.

### **2.5.5 Airspace Layout**

KDLH lies within Class D airspace. The lateral limit is a 5 nm radius, and the vertical limit is 3900' MSL.

When the KDLH ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the confines of the airport traffic area, airspace becomes Class E airspace.

Additional Class E airspace lies from 700' AGL within the lateral confines of the following airports:

KCOQ (Cloquet, MN)  
KDYT (Duluth-Sky Harbor, MN)  
KSUW (Superior, WI)  
KEVM (Eveleth, MN)  
KHIB (Hibbing-Chisholm, MN)  
KTWM (Two Harbors, MN)  
KMZH (Moose Lake, MN)  
KOLG (Solon Springs, WI)

Additional public airports in DLH airspace include:

9M0 (North Country MN)  
9Y5 (Virginia- Sky Harbor Seaplane Base, MN)  
Y77 (Bayfield Co, WI)

## **2.5.6 TRACON Procedures**

The DLH APP/TRACON unit is responsible for radar services at KDLH. DLH APP/DEP controls area laterally in an approximately 40 nautical mile radius around KDLH, from the lower limit of all Class E airspace up to 12,000'. In addition, DLH APP is delegated a second shelf of airspace in a 25 nautical mile radius around KHIB (Hibbing-Chisholm Airport) that extends from the limits of all Class E airspace up to 8,000'.

### Transition Altitudes

DLH Radar controllers must issue all departing aircraft a climb to 12,000 MSL or requested altitude, whichever is higher. The only exception for this is the HIB/EVM shelf area in which the 8000 MSL airspace ceiling will be observed as the transition altitude.

When positions are not staffed at DLH APP, ZMP Center controllers will be responsible for radar services at KDLH. The following procedures will be followed for certain radar services at KDLH:

### IFR Release, Arrival, and Departure Coordination

Center shall hand aircraft off to DLH\_APP at the boundary of DLH\_APP airspace at or above 13,000 feet unless prior coordination is made. Approach should vector aircraft into the correct flow for the runway in use.

All aircraft should be direct to their first waypoint as soon as practical. There are no arrival or departure procedures at KDLH.

Approach/Departure should handle all IFR and VFR releases of aircraft, though they will usually not have radar control of VFR departures in Class D airspace.

There are no Arrival or Departure procedures at DLH or any satellite airports.

Instrument Approach Procedures (IAPs)

*The following approaches are valid at KDLH*

ILS OR LOC RWY 27  
I-ILS RWY 27  
HI-ILS Y RWY 09  
HI-ILS Z RWY 09  
ILS RWY 09 (CAT I/II)  
RNAV (GPS) RWY 09  
RNAV (GPS) RWY 27  
GPS RWY 21  
VOR/DME OR TACAN RWY 21  
HI-TACAN RWY 09  
HI-TACAN RWY 27  
TACAN RWY 09  
TACAN RWY 27  
VOR OR TACAN OR GPS RWY 03  
COPTER ILS OR LOC RWY 27  
COPTER ILS RWY 09

Additional Instrument procedures are available at other DLH airspace airports:

*KDYT – Detroit Lakes, MN*

RNAV (GPS) RWY 32  
NDB OR GPS-B

*KCOQ (Cloquet, MN)*

VOR-A  
NDB OR GPS 17  
NDB OR GPS 35

*KSUW (Superior, WI)*

GPS 3  
GPS 13  
GPS 31  
NDB 31

*KHIB (Hibbing/Chisholm Airport, MN)*

ILS OR LOC RWY 31  
ILS OR LOC/DME 13  
RNAV (GPS) RWY 4  
RNAV (GPS) RWY 13  
RNAV (GPS) RWY 22  
RNAV (GPS) RWY 31  
VOR RWY 31  
VOR RWY 13

*KEVM (Eveleth, MN)*

GPS RWY 27  
VOR/DME OR GPS-A  
VOR RWY 27

*KTWM (Two Harbors, MN)*

GPS RWY 24  
NDB RWY 24

*KOLG (Solon Springs, WI)*

RNAV (GPS) 19  
NDB RWY 19

*KMZH (Moose Lake, MN)*

GPS RWY 4  
NDB RWY 4

**2.6 St. Cloud Regional Airport (KSTC)**

**2.6.1 Communications**

**2.6.1.1 Frequencies**

The following frequencies are the ONLY frequencies allowed to be used in the KSTC Tower Cab. Your default voice server should be: *voice.downstairsgeek.com* Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

Position Name	Login Name	Frequency	Voice Channel
St Cloud ATIS	KSTC_ATIS	119.375	stc_119.37
St Cloud Ground	STC_GND	121.600	stc_121.60
St Cloud Tower	STC_TWR	118.250	stc_118.25

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

**4.6.1.2 ATIS (Automated Terminal Information System)**

Voice ATIS

Voice ATIS broadcasts for KSTC can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

Position ATIS

Every KSTC Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

- Position
- Current ATIS Letter ID
- Active Runways

Some other ATIS elements to consider including are:

- Current weather (or time of current weather report being used to determine field conditions)
- Types of Approaches in Use
- Web link to the ZMP ARTCC website for feedback



ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

## **2.6.2 Airport Layout / Runway Configuration**

KSTC has four (4) designated runways on two (2) landing surfaces. Here is a quick description of each surface:

13/31– 7000x150' primary runway, used for all operations

5/23- 3000x75' secondary runway, used for mainly general aviation operations.

## **2.6.3 Active Runway Selection**

When winds at KSTC are calm, you should use runway 13 as a designated calm wind runway unless a pilot requests a different runway. All other times, prevailing wind direction will determine active runways.

## **2.6.4 IFR and VFR Clearances**

STC\_GND (or TWR when GND offline) shall be in charge of all IFR clearances to aircraft. All aircraft should be assigned an initial altitude coordinated with Center. As it is Class Delta airspace, VFR departures do not require a clearance or a discrete squawk code. Ground shall taxi them to the active runway.

## **2.6.5 Airspace Layout**

KSTC lies within Class D airspace. The lateral limit is a 4 nm radius, and the vertical limit is 3500' MSL.

When the KSTC ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the confines of the airport traffic area, airspace becomes Class E airspace.

## **2.3.6 KSTC Radar Service/Approach Procedures**

ZMP Center provides radar services at KSTC and the surrounding area. The following procedures will be followed for certain radar services at STC:

### Instrument Approach Procedures (IAPs)

Radar controllers will provide radar services to maintain IFR separation for traffic arriving on IAPs to KSTC and outlying areas. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at the airports listed below, unless the pilot requests an "own

nav" approach, or unless workload prevents the provision of vectors. In the latter instance, pilots will be assigned IAP clearance via pilot navigation

The following approaches are valid at KSTC

ILS OR LOC RWY 31  
ILS OR LOC/DME RWY 13  
RNAV (GPS) 5  
RNAV (GPS) 13  
RNAV (GPS) 23  
RNAV (GPS) 31  
VOR/DME RWY 13  
VOR RWY 31

**2.7 Ray S Miller Army Airfield (KRYM)**

The following frequencies are the ONLY frequencies allowed to be used in the KSTC Tower Cab. Your default voice server should be: *voice.downstairsgeek.com* Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

Position Name	Login Name	Frequency	Voice Channel
Miller Tower	RYM_TWR	126.200	Rym_126.20

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

**2.7.1.2 ATIS (Automated Terminal Information System)**

Voice ATIS is unavailable at Ray Miller Army Airfield.

Position ATIS

Every KRYM Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

- Position
- Current ATIS Letter ID
- Active Runways

Some other ATIS elements to consider including are:

- Current weather (or time of current weather report being used to determine field conditions)
- Types of Approaches in Use
- Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

**2.7.2 Airport Layout / Runway Configuration**

KRYM has two (2) designated runways on one landing surface:

13/31: 6100 x 100', used for all operations.

### **2.7.3 Active Runway Selection**

Prevailing wind direction will determine active runway.

### **2.7.4 IFR and VFR Clearances**

RYM\_TWR shall be in charge of all IFR clearances to aircraft. All aircraft should be assigned an initial altitude coordinated with Center.

As it is Class Delta airspace, VFR departures do not require a clearance or a discrete squawk code. Tower shall taxi them to the active runway.

### **2.7.4 Airspace Layout**

KRYM lies within Class D airspace. The lateral limit is a 4 nm radius, and the vertical limit is 3700' MSL.

When the KRYM ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the confines of the airport traffic area, airspace becomes Class E airspace.

### **2.7.5 KRYM Radar Service/Approach Procedures**

ZMP Center provides radar services at KRYM and the surrounding area. The following procedures will be followed for certain radar services at STC:

#### Instrument Approach Procedures (IAPs)

Radar controllers will provide radar services to maintain IFR separation for traffic arriving on IAPs to KSTC and outlying areas. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at the airports listed below, unless the pilot requests an "own nav" approach, or unless workload prevents the provision of vectors. In the latter instance, pilots will be assigned IAP clearance via pilot navigation

The following approaches are valid at KRYM

ILS OR LOC/DME RWY 31

RNAV (GPS) RWY 13

RNAV (GPS) RWY 31

TACAN RWY 13

TACAN RWY 31

NDB RWY 31

**END OF SECTION**

**SECTION 3****Badger State Facility Group Standard Operating Procedures****3.1 Purpose**

The Badger State Standard Operating Procedures defines a uniform set of procedures for all controllers to follow while working positions in the ATC facilities of the Badger State Facility Group. The airports/facilities below are included in the Badger State Facility Group:

<b>Identifier</b>	<b>Location</b>	<b>Facility</b>	<b>Major/Minor Classification</b>
KGRB	Green Bay, WI	Class C TRACON	Minor
KCWA	Mosinee, WI	Class D ATCT	Minor
KLSE	La Crosse, WI	Class D ATCT	Minor
KEAU	Eau Claire, WI	Class D ATCT	Minor

**3.2 Pre-requisites and Position Restrictions**

All airports in this group are designated minor airports. Controllers will be permitted to work tower cab positions at all airports within this group once the appropriate VATSIM rating has been obtained.

**3.3 Departure Coordination**Aircraft on IFR Flight Plans

All IFR departures shall be coordinated with the higher controlling position from the ATCT, if staffed (i.e. GRB\_APP or MSP\_CTR). The coordination shall include IFR clearance and release instructions to be relayed to the aircraft.

Before an IFR departure occurs, the TWR controller shall contact the higher controlling position via G/G communication or text messaging to obtain IFR release.

IFR Release Coordination and Communication Example:

1. Aircraft calls ready for departure:

*“LaCrosse Tower, King Air 2323F ready for departure runway 36”*

2. Advise aircraft to hold awaiting IFR release:

*“King Air 2323F, LaCrosse Tower, hold short awaiting IFR release”*

3. Contact higher controlling position for IFR release via G/G or text message:

*“Minneapolis Center, LaCrosse Tower, IFR release for N2323F, runway 36” (or similar)*

4. IFR Release is granted (center responds):

*“N2323F is released, depart runway 36 heading 330, void if not off in 5 minutes..KP”*

5. Takeoff clearance given to aircraft:

*“N2323F, wind 360 at 6, fly heading 330 on departure, runway 36 cleared for takeoff”*

6. Ensure positive communication handoff (after altitude change and heading change is confirmed):

*“N2323F contact Minneapolis Center now on 133.40, good day!”*

**3.4 Green Bay – Austin Straubel International Airport (KGRB)**

**3.4.1 Communications**

**3.4.1.1 Frequencies**

The following frequencies are the ONLY frequencies allowed to be used in the KGRB Tower Cab and TRACON. Your default voice server should be: *voice.downstairsgeek.com* Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS.**

<b><i>Position Name</i></b>	<b><i>Frequency</i></b>	<b><i>Callsign</i></b>	<b><i>Voice Channel</i></b>
Green Bay ATIS	124.100	KGRB_ATIS	
Green Bay Clearance Delivery	121.750	GRB_DEL	grb_121.75
Green Bay Ground	121.900	GRB_GND	grb_121.90
Green Bay Tower	118.700	GRB_TWR	grb_118.70
Green Bay Departure	126.550	GRB_DEP	grb_126.55
Green Bay Approach	119.400	GRB_APP	grb_119.40

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

**3.4.1.2 ATIS (Automated Terminal Information System)**

Voice ATIS

Voice ATIS broadcasts for KGRB can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

Position ATIS

Every KGRB Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

- Position
- Current ATIS Letter ID
- Active Runways

Some other ATIS elements to consider including are:

- Current weather (or time of current weather report being used to determine field conditions)

### Types of Approaches in Use

Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

### 3.4.2 Airport Layout / Runway Configuration

KGRB has four (4) designated runways on two (2) landing surfaces. Here is a quick description of each surface:

6/24 – 7700x150; primary runway; used for all operations

18/36 – 8701x150; primary runway; used for all operations

### 3.4.3 Active Runway Selection

Wind conditions will primarily determine runway selection at KGRB. Alternative runway selection may be requested by pilots.

### 3.4.4 Airspace Layout

KGRB lies within Class C airspace. The 5nm radius inner area extends from the surface to 4700 MSL, and the outer area radius extends to 10nm and from 1900 MSL to 4700 MSL. In addition the GRB TRACON provides radar services to local IFR and participating VFR aircraft within airspace which surrounds KGRB to roughly a 40nm radius from the surface to 12000 MSL for services.

#### 3.4.4.1 Airspace Delegation and Responsibility

##### When Only GRB TWR is Staffed

ZMP Center delegates the Class C inner area to GRB\_TWR for airspace responsibility.

##### When Only GRB APP is Staffed

ZMP Center delegates the airspace roughly within a 40nm radius of KGRB from the surface to 12000 MSL, as depicted on sector files and video maps, to GRB\_APP.



When Both GRB\_APP and GRB\_TWR are Staffed

ZMP Center delegates the airspace roughly within a 40nm radius of KGRB from the surface to 12000 MSL, as depicted on sector files and video maps, to GRB\_APP. Thence, GRB\_APP delegates the inner area of the Class C airspace to GRB\_TWR.

When the GRB TRACON and ATCT are not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the lateral limits of the Class C airspace boundary, airspace is Class E (controlled).

Transition Altitudes

KGRB controllers will observe initial IFR climb altitudes on departure of 5000/3000 MSL (jets/props).

KGRB controllers will observe a transition altitude of 12000 MSL with ZMP Center.

**3.4.5 TRACON Procedures**

The GRB TRACON unit is responsible for radar services at KGRB and the surrounding area. When positions are not staffed at GRB TRACON, ZMP Center controllers will be responsible for radar services at and surrounding KGRB. The following procedures will be followed for certain radar services at GRB:

Instrument Approach Procedures (IAPs)

Radar controllers will provide radar services to maintain IFR separation for traffic arriving on IAPs to KGRB and outlying areas. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at the airports listed below, unless the pilot requests an "own nav" approach, or unless workload prevents the provision of vectors. In the latter instance, pilots will be assigned IAP clearance via pilot navigation.

The following IAPs are authorized at KGRB:

ILS OR LOC RWY 36  
ILS RWY 6  
RNAV (GPS) RWY 06  
RNAV (GPS) RWY 18  
RNAV (GPS) RWY 24  
RNAV (GPS) RWY 36  
LOC BC RWY 24  
VOR/DME OR TACAN RWY 36  
VOR-A

The following IAPs are authorized at KATW (Appleton/Outagamie Co. Airport)

ILS OR LOC RWY 03  
ILS RWY 29  
RNAV (GPS) RWY 03  
RNAV (GPS) RWY 11  
RNAV (GPS) RWY 21  
RNAV (GPS) RWY 29  
LOC BC RWY 11  
VOR/DME RWY 03  
VOR/DME RWY 21

The following IAPs are authorized at KOCQ (Oconto, WI)

GPS RWY 11  
NDB OR GPS RWY 29

The following IAP is authorized at KEZS (Shawano, WI)

GPS RWY 29

The following IAPs are authorized at KCLI (Clintonville, WI)

RNAV (GPS) RWY 04  
RNAV (GPS) RWY 14  
RNAV (GPS) RWY 22  
RNAV (GPS) RWY 32  
NDB RWY 32

The following IAPs are authorized at KMMN (Menomonie/Marinette Co, WI)

ILS RWY 03  
RNAV (GPS) RWY 32  
VOR/DME RNAV OR GPS RWY 21  
VOR OR GPS-A  
NDB OR GPS RWY 03

The following IAPs are authorized at KSUE (Sturgeon Bay, WI)

RNAV (GPS) RWY 02  
RNAV (GPS) RWY 10  
RNAV (GPS) RWY 20  
RNAV (GPS) RWY 28  
SDF RWY 02

The following IAPs are authorized at 92C (Pulaski, WI)

VOR or GPS-A

Minimum Vectoring Altitudes

For the GRB TRACON Airspace, the following MVAs will be utilized:

North of the GRB VORTAC 240 radial and West of the GRB VORTAC 360 radial: 2700 MSL

North of the GRB VORTAC 060 radial and East of the GRB VORTAC 360 radial: 2200 MSL

South of the GRB VORTAC 240/060 radials: 2500 MSL

### 3.5 Central Wisconsin Airport (KCWA)

The Central Wisconsin Airport is located in Mosinee, WI and serves the Wausau/Stevens Point area. It is commonly referred to by pronouncing the airport identifier as “see-way”.

#### 3.5.1 Communications

##### 3.5.1.1 Frequencies

The following frequencies are the ONLY frequencies allowed to be used in the KCWA Tower Cab. Your default voice server should be: *voice.downstairsgeek.com* Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

<i><b>Position Name</b></i>	<i><b>Frequency</b></i>	<i><b>Callsign</b></i>	<i><b>Voice Channel</b></i>
Central Wisconsin ATIS	127.450	KCWA_ATIS	
Central Wisconsin Ground	121.900	CWA_GND	cwa_121.90
Central Wisconsin Tower	119.750	CWA_TWR	cwa_119.75

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

##### 3.5.1.2 ATIS (Automated Terminal Information System)

###### Voice ATIS

Voice ATIS broadcasts for KCWA can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

###### Position ATIS

Every KCWA Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

- Position
- Current ATIS Letter ID
- Active Runways

Some other ATIS elements to consider including are:

- Current weather (or time of current weather report being used to determine field conditions)

### Types of Approaches in Use

Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

### **3.5.2 Airport Layout / Runway Configuration**

KCWA has four (4) designated runways on two (2) landing surfaces. Here is a quick description of each surface:

8/26 – 7645x150; primary runway; used for all operations

17/35 – 6500x150; primary runway; used for all operations

### **3.5.3 Active Runway Selection**

Wind conditions will primarily determine runway selection at KCWA. Alternative runway selection may be requested by pilots.

### **3.5.4 Airspace Layout**

KCWA lies within Class D airspace. The Class D area extends from the surface to 3500 MSL within a 5nm radius of the airport.

#### **3.5.4.1 Airspace Delegation and Responsibility**

When CWA\_TWR is staffed ZMP Center delegates the Class D airspace to CWA\_TWR for airspace responsibility.

When the CWA\_TWR is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the lateral limits of the Class D airspace boundary, airspace becomes Class E (controlled).

### **3.5.5 Radar Services and Approach Procedures**

ZMP Center provides radar services at KCWA and the surrounding area. The following procedures will be followed for certain radar services at CWA:

#### Instrument Approach Procedures (IAPs)

Radar controllers will provide radar services to maintain IFR separation for traffic arriving on IAPs to KCWA and outlying areas. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at the airports listed below, unless the pilot requests an "own

nav” approach, or unless workload prevents the provision of vectors. In the latter instance, pilots will be assigned IAP clearance via pilot navigation.

The following IAPs are authorized at KCWA:

ILS OR LOC RWY 08  
ILS OR LOC RWY 35  
RNAV (GPS) RWY 08  
RNAV (GPS) RWY 17  
RNAV (GPS) RWY 26  
RNAV (GPS) RWY 35  
LOC BC RWY 26  
VOR/DME RWY 35  
VOR OR GPS-A

**3.6 LaCrosse Municipal Airport (KLSE)**

The LaCrosse Municipal Airport is located in LaCrosse, WI.

**3.6.1 Communications**

**3.6.1.1 Frequencies**

The following frequencies are the ONLY frequencies allowed to be used in the KLSE Tower Cab. Your default voice server should be: *voice.downstairsgeek.com* Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

<i><b>Position Name</b></i>	<i><b>Frequency</b></i>	<i><b>Callsign</b></i>	<i><b>Voice Channel</b></i>
LaCrosse ATIS	124.950	KLSE_ATIS	
LaCrosse Ground	121.800	LSE_GND	lse_121.80
LaCrosse Tower	118.450	LSE_TWR	lse_118.45

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

**3.6.1.2 ATIS (Automated Terminal Information System)**

Voice ATIS

Voice ATIS broadcasts for KLSE can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

Position ATIS

Every KLSE Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

- Position
- Current ATIS Letter ID
- Active Runways

Some other ATIS elements to consider including are:

- Current weather (or time of current weather report being used to determine field conditions)
- Types of Approaches in Use
- Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

### **3.6.2 Airport Layout / Runway Configuration**

KLSE has six (6) designated runways on three (3) landing surfaces. Here is a quick description of each surface:

18/36 – 8537x150; primary runway; used for all operations

13/21 – 6050x150; secondary runway

3/21 – 5299x150; secondary runway

### **3.6.3 Active Runway Selection**

Wind conditions will primarily determine runway selection at KLSE. Alternative runway selection may be requested by pilots.

### **3.6.4 Airspace Layout**

KLSE lies within Class D airspace. The Class D area extends from the surface to 3200 MSL within a 5nm radius of the airport.

#### **3.6.4.1 Airspace Delegation and Responsibility**

When LSE\_TWR is staffed ZMP Center delegates the Class D airspace to LSE\_TWR for airspace responsibility.

When the LSE\_TWR is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the lateral limits of the Class D airspace boundary, airspace becomes Class E (controlled).

### **3.6.5 Radar Services and Approach Procedures**

ZMP Center provides radar services at KLSE and the surrounding area. The following procedures will be followed for certain radar services at EAU:

#### Instrument Approach Procedures (IAPs)

Radar controllers will provide radar services to maintain IFR separation for traffic arriving on IAPs to KLSE and outlying areas. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at the airports listed below, unless the pilot requests an "own



nav” approach, or unless workload prevents the provision of vectors. In the latter instance, pilots will be assigned IAP clearance via pilot navigation.

The following IAPs are authorized at KLSE:

ILS RWY 18  
VOR OR GPS RWY 36  
VOR RWY 13  
NDB OR GPS RWY 18

**3.7 Chippewa Valley Regional Airport – Eau Claire, WI (KEAU)**

The Chippewa Valley Regional Airport is located in Eau Claire, WI. (pronounced “oh-clare”)

**3.7.1 Communications**

**3.7.1.1 Frequencies**

The following frequencies are the ONLY frequencies allowed to be used in the KEAU Tower Cab. Your default voice server should be: *voice.downstairsgeek.com* Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

<b><i>Position Name</i></b>	<b><i>Frequency</i></b>	<b><i>Callsign</i></b>	<b><i>Voice Channel</i></b>
Eau Claire Ground	120.925	EAU_GND	eau_120.92
Eau Claire Tower	118.575	EAU_TWR	eau_118.57

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

**3.7.1.2 ATIS (Automated Terminal Information System)**

Voice ATIS

Voice ATIS broadcasts for KEAU are not authorized.

Position ATIS

Every KEAU Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

- Position
- Active Runways

Some other ATIS elements to consider including are:

- Current weather (or time of current weather report being used to determine field conditions)
- Types of Approaches in Use
- Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

### **3.7.2 Airport Layout / Runway Configuration**

KEAU has four (4) designated runways on two (2) landing surfaces. Here is a quick description of each surface:

4/22 – 8101x150; primary runway; used for all operations

14/32– 4999x100; secondary runway

### **3.7.3 Active Runway Selection**

Wind conditions will primarily determine runway selection at KEAU. Alternative runway selection may be requested by pilots.

### **3.7.4 Airspace Layout**

KEAU lies within Class D airspace. The Class D area extends from the surface to 3500 MSL within a 5nm radius of the airport.

#### **3.7.4.1 Airspace Delegation and Responsibility**

When EAU\_TWR is staffed ZMP Center delegates the Class D airspace to EAU\_TWR for airspace responsibility.

When the EAU\_TWR is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the lateral limits of the Class D airspace boundary, airspace becomes Class E (controlled).

### **3.7.4 Radar Services and Approach Procedures**

ZMP Center provides radar services at KEAU and the surrounding area. The following procedures will be followed for certain radar services at EAU:

#### Instrument Approach Procedures (IAPs)

Radar controllers will provide radar services to maintain IFR separation for traffic arriving on IAPs to KEAU and outlying areas. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at the airports listed below, unless the pilot requests an “own nav” approach, or unless workload prevents the provision of vectors. In the latter instance, pilots will be assigned IAP clearance via pilot navigation.

The following IAPs are authorized at KEAU:

ILS OR LOC RWY 22  
LOC/DME BC RWY 04  
VOR OR GPS-A  
NDB OR GPS RWY 22

**END OF SECTION**

**SECTION 4****Sioux Empire Facility Group Standard Operating Procedures****4.1 Purpose**

The Sioux Empire Standard Operating Procedures defines a uniform set of procedures for all controllers to follow while working positions in the ATC facilities of the Sioux Empire Facility Group. The airports/facilities below are included in the Sioux Empire Facility Group:

<b>Identifier</b>	<b>Location</b>	<b>Facility</b>	<b>Major/Minor Classification</b>
KOMA	Omaha, NE	Class C RAPCON	Minor
KOFF	Omaha, NE (Offutt AFB)	Class C RAPCON	Minor
KLNK	Lincoln, NE	Class C TRACON	Minor
KDSM	Des Moines, IA	Class C TRACON	Minor
KFSD	Sioux Falls, SD	Class D TRACON	Minor
KSUX	Sioux City, IA	Class D TRACON	Minor
KGRI	Grand Island, NE	Class D ATCT	Minor

**4.2 Pre-requisites and Position Restrictions**

All airports in this group are designated minor airports. Controllers will be permitted to work tower cab positions at all airports within this group once the appropriate VATSIM rating has been obtained.

**4.3 Departure Coordination**Aircraft on IFR Flight Plans

All IFR departures shall be coordinated with the higher controlling position from the ATCT, if staffed (i.e. GRB\_APP or MSP\_CTR). The coordination shall include IFR clearance and release instructions to be relayed to the aircraft.

Before an IFR departure occurs, the TWR controller shall contact the higher controlling position via G/G communication or text messaging to obtain IFR release.

IFR Release Coordination and Communication Example:

1. Aircraft calls ready for departure:

*“LaCrosse Tower, King Air 2323F ready for departure runway 36”*

2. Advise aircraft to hold awaiting IFR release:

*“King Air 2323F, LaCrosse Tower, hold short awaiting IFR release”*

3. Contact higher controlling position for IFR release via G/G or text message:

*“Minneapolis Center, LaCrosse Tower, IFR release for N2323F, runway 36” (or similar)*

4. IFR Release is granted (center responds):

*“N2323F is released, depart runway 36 heading 330, void if not off in 5 minutes..KP”*

5. Takeoff clearance given to aircraft:

*“N2323F, wind 360 at 6, fly heading 330 on departure, runway 36 cleared for takeoff”*

6. Ensure positive communication handoff (after altitude change and heading change is confirmed):

*“N2323F contact Minneapolis Center now on 133.40, good day!”*

**4.4 Omaha Eppley Airfield, Omaha, NE (KOMA)****4.4.1 Communications****4.4.1.1 Frequencies**

The following frequencies are the ONLY frequencies allowed to be used in the KOMA Tower Cab. Your default voice server should be: *voice.downstairsgeek.com*. Your

channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

***Position Name Login Name Frequency Voice Channel***

<b><i>Position Name</i></b>	<b><i>Frequency</i></b>	<b><i>Callsign</i></b>	<b><i>Voice Channel</i></b>
Omaha ATIS	120.400	KOMA_ATIS	
Omaha Ground	121.900	OMA_GND	oma_121.90
Omaha Tower	132.100	OMA_TWR	oma_118.30
Omaha East Approach* (Primary)	124.500	OMA_E_APP	r90_124.50
Omaha West Approach	120.100	OMA_W_APP	r90_120.10

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

**4.4.1.2 ATIS (Automated Terminal Information System)**Voice ATIS

Voice ATIS broadcasts for KOMA can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

Position ATIS

Every KOMA Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

- Position
- Current ATIS Letter ID
- Active Runways

Some other ATIS elements to consider including are:

Current weather (or time of current weather report being used to determine field conditions)

Types of Approaches in Use

Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

#### **4.4.2 Airport Layout / Runway Configuration**

KOMA has six (6) designated runways on three (3) landing surfaces. Here is a quick description of each surface:

14R/32L – 9502x150' primary runway, used for all major air carrier operations

14L/32R- 8500x150' secondary runway, used for all major air carrier operations.

18/36 – 8153x150' secondary runway, used for all major air carrier operations.

#### **6.4.3 Active Runway Selection**

When winds at KOMA are calm, you should use runway 36 as a designated calm wind runway unless a pilot requests a different runway. When winds are below 6 knots, select a landing configuration of either 32L/32R/36 (North flow) or 14R/14L/18 (South Flow) depending on which way the winds favor.

#### **4.4.4 Airspace Layout**

KOMA and KOFF lie within conjoined Class C airspaces. The lateral limit is a 5 nm radius from each airport, and the vertical limit is 5000' MSL.

When the KOMA and KOFF ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the confines of the airport traffic area, airspace becomes Class E airspace.

Additional Class E airspace lies from 700' AGL within the lateral confines of the following airports:

KCBF (Council Bluffs, IA)

KMLE (Millard Airport, Omaha, NE)

KPMV (Plattsmouth, NE)

KAHQ (Wahoo, NE)

KFET (Fremont, NE)

KSCB (Scribner, NE)

KTQE (Tekamah, NE)

KHNR (Harlan, NE)

KRDK (Red Oak, IA)



KSDA (Shenandoah, IA)

**4.4.5 R90 TRACON Arrival Procedures**

The OMA APP/TRACON unit is responsible for radar services at OMA and OFF. OMA APP/DEP controls area laterally in an approximately 20 nautical mile radius around KOMA up to 5,000 MSL and 2,500 MSL from 5 miles to 20 miles radius of KOMA.

Five arrival procedures dictate arrival flow into KOMA.

*HOWRY1*: This is an arrival procedure from the west. Aircraft proceed via one of three transitions: ONL and OLU, OBH, and GRI. All three transitions meet at HOWRY intersection. Turbojet aircraft will expect to cross HOWRY at 16,000 while prop aircraft cross at 10,000. From HOWRY all aircraft proceed direct BOYSS. When in South Flow, aircraft landing 14L/14R/18 at Eppley (KOMA) should depart BOYSS heading 060 expecting vectors to final. Aircraft landing runway 12 at Offutt (KOFF) should proceed direct GEEZR expecting vectors to final ( KOFF ILS 12 approach crosses the HOWRY1 arrival between BOYSS and GEEZR). When in North Flow, aircraft landing 32L/32R/36 at Eppley should depart BOYSS direct GEEZR and depart GEEZR heading 130 expecting vectors to final. Aircraft landing runway 30 at Offutt should depart BOYSS heading 120 expecting vectors to final.

*LANTK1*: This is an arrival procedure from the east. Aircraft join the arrival from one of three transitions: FOD, DABOY, and DSM. All Aircraft proceed direct to LANTK intersection. Turbojet aircraft expect to cross LANTK at 16,000 and Non-Turbojet aircraft expect to cross at 10,000. All aircraft depart LANTK on a heading of 250.

*MARWI1*: This is an arrival procedure from the southeast. Aircraft join the arrival from either the LMN or STJ transition. All Aircraft proceed direct MARWI intersection, where turbojet aircraft should expect to cross at 16,000 and non-turbojet aircraft cross at 10,000. All Aircraft landing at Offutt should depart MARWI heading 280 expecting vectors to final. All other aircraft proceed direct SWAAB intersection. In South Flow, turbojet aircraft landing Eppley 14R/14L/18 should expect to cross SWAAB at 10,000. Non- turbojet aircraft are at controllers discretion. All aircraft landing South Flow at Eppley should depart SWABB heading 320 expecting vectors to final. In North Flow, turbojet aircraft landing Eppley 32L/32R/36 should expect to cross SWAAB intersection at 7,000. Non-turbojet aircraft are at controllers discretion. All aircraft landing South Flow at Eppley should continue direct OVR, expecting vectors to final.

*PWE1 (Pawnee City One)*: This is from the south. Aircraft proceed from PWE transition direct to TIMMO, where Turbojet aircraft should expect to cross at 16,000. Non-turbojet aircraft should expect to cross TIMMO at 10,000. All aircraft then proceed direct MOONR intersection. In South Flow, aircraft landing 14L/14R/18 Eppley should depart MOONR direct MEPWE then depart MEPWE heading 355. Aircraft landing 12 at Offutt depart MOONR heading 340. In North Flow, aircraft landing 32L/32R/36 at Eppley

should depart MOONR heading 042. Aircraft landing 30 at Offutt should depart MOONR heading 070. All aircraft should expect vectors to final

*SUX1 (Sioux City One)*: This procedure is from the north. All aircraft proceed from SUX transition direct to BECOM intersection. Turbojets should expect to cross BECOM at 16,000, non-turbojets at 11,000. Aircraft then proceed direct AANDY. Aircraft landing Offutt should depart AANDY heading 180. All Eppley arrivals proceed thence to CANIO intersection. Aircraft landing 14L and 14R should depart CANIO heading 190. All other Eppley traffic, including RWY 36 traffic, should depart CANIO heading 145. All aircraft expect vectors to final.

Transition Altitude is 15,000 feet.

When positions are not staffed at OMA APP, ZMP Center controllers will be responsible for radar services at KOMA.

The following procedures will be followed for certain radar services at KOMA:

IFR Release, Arrival, and Departure Coordination

Center shall hand aircraft off to OMA\_APP at the boundary of OMA\_APP airspace at or above 10,000 feet unless prior coordination is made. Approach should vector aircraft into the correct flow for the runway in use.

All aircraft should be direct to their first waypoint as soon as practical.

Approach/Departure should handle all IFR and VFR releases of aircraft.

There is 1 Standard Instrument Departure procedure, which is the Des Moines 5.

Minimum Vectoring Altitudes – In general the MVA in areas north of the OMA VORTAC is 4000 MSL and south being 2800 MSL.

#### Instrument Approach Procedures (IAPs)

Radar Controllers will provide radar services to Maintain IFR separation for traffic arriving on IAPs to KOMA. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at KOMA at all times.

*The following approaches are authorized at KOMA*

ILS OR LOC RWY 18

HI-ILS RWY 18

HI-ILS RWY 36

HI-VOR/DME OR TACAN RWY 18

HI-VOR/DME OR TACAN RWY 36

ILS OR LOC RWY 36

RNAV (GPS) RWY 14

RNAV (GPS) RWY 18

RNAV (GPS) RWY 36

VOR OR GPS RWY 17

VOR RWY 18

*The following approaches are authorized at KOFF (Offutt Air Force Base)*

HI-ILS RWY 30  
ILS RWY 30  
RNAV (GPS) RWY 12  
RNAV (GPS) RWY 30  
HI-TACAN RWY 12  
HI-TACAN RWY 30  
TACAN RWY 12  
TACAN RWY 30

*The following approaches are authorized at KCBF (Council Bluffs Municipal)*

RNAV (GPS) RWY 14  
RNAV (GPS) RWY 18  
RNAV (GPS) RWY 32  
RNAV (GPS) RWY 36  
VOR-A

*The following approaches are authorized at KMLE (Millard Airport)*

RNAV (GPS) 12  
RNAV (GPS) 30  
NDB RWY 12

*The following approaches are authorized at KPMV (Plattsmouth Municipal)*

RNAV (GPS) RWY 16  
RNAV (GPS) RWY 34  
NDB RWY 16  
NDB RWY 34

*The following approaches are authorized at KAHQ (Wahoo Municipal)*

GPS RWY 20  
NDB RWY 20

*The following approaches are authorized at KFET (Fremont Municipal)*

RNAV (GPS) RWY 14  
VOR RWY 14

*The following approaches are authorized at KSCB (Scribner Municipal)*

RNAV (GPS) RWY 17  
RNAV (GPS) RWY 35  
VOR RWY 35

*The following approaches are authorized at KTQE (Tekamah Municipal)*

RNAV (GPS) RWY 14  
RNAV (GPS) RWY 32

## VOR RWY 32

*The following approaches are authorized at KHNR (Harlan Municipal)*

GPS RWY 15  
GPS RWY 33  
NDB RWY 33

*The following approaches are authorized at KRDK (Red Oak Municipal)*

GPS RWY 5  
GPS RWY 17  
VOR/DME-A  
NDB RWY 17

*The following approaches are authorized at KSDA (Shenandoah Municipal)*

RNAV (GPS) RWY 04  
VOR/DME OR GPS RWY 12  
NDB RWY 04

*The following approaches are authorized at KAFK (Nebraska City Municipal)*

RNAV (GPS) RWY 15  
RNAV (GPS) RWY 33  
NDB RWY 15  
NDB RWY 33

#### **4.4.6 R90 TRACON Departure Procedures**

Omaha shall observe initial climb procedures of 5,000/4,000' (jets/props).  
Transition altitude shall be 15,000/12,000' (jets/props).

There are two departure procedures at Omaha, both of which are radar vector departures. Omaha Departure shall clear aircraft direct their first waypoint on these, both the BLUFS1 and the CATTL1.

Transitions for:

BLUFS1: FSD, GEP, YKN, FOD, SUX, IOW, DSM, LMN, STJ, MCI  
CATTL1: ONL, OFK, OBH, LBF, LNK, PWE, ICT

Note: When nearby is staffed, departures that will enter the lateral boundaries of neighboring TRACONS with a final altitude below 15,000 shall be handed off to the receiving facility at the border. All other aircraft shall be handed off to Center. In the event that aircraft will enter an airspace for a brief period but will climb through, a pointout may be required.

**4.5 Offutt Air Force Base, Omaha, NE (KOFF)**

**4.5.1 Communications**

**4.5.1.2 Frequencies**

The following frequencies are the ONLY frequencies allowed to be used in the KOFF Tower Cab. Your default voice server should be: [voice.downstairsgeek.com](http://voice.downstairsgeek.com). Your

channel must be EXACTLY as listed as below, **NO EXCEPTIONS.**

<b>Position Name</b>	<b>Frequency</b>	<b>Callsign</b>	<b>Voice Channel</b>
OFF ATIS	127.40	KOFF_ATIS	
OFF Ground	121.700	OFF_GND	off_121.70
OFF Tower	123.700	OFF_TWR	off_123.70

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

**4.5.1.2 ATIS (Automated Terminal Information System)**

Voice ATIS

Voice ATIS broadcasts for KOFF can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

Position ATIS

Every KOFF Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

Position

Current ATIS Letter ID

Active Runways

Some other ATIS elements to consider including are:

Current weather (or time of current weather report being used to determine field conditions)

-Types of Approaches in Use

-Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

#### **4.5.2 Airport Layout / Runway Configuration**

KOFF has two (2) designated runways on one (1) landing surface.

12/30: 11700x300: Used for all operations.

#### **4.5.3 Active Runway Selection**

Wind conditions will primarily determine runway selection at KOFF. Alternative runway selection may be requested by pilots. The calm wind runway is runway 30.

#### **4.5.4 Airspace Layout**

KOFF lies within Class C airspace. The lateral limit is a 5 nm radius, and the vertical limit is 5000' MSL.

When the KOFF ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the confines of the airport traffic area, airspace becomes Class E airspace.

#### **6.5.5 KOFF Radar Service/Approach Procedures**

OMA APP and the R90 TRACON covers Approach procedures at KOFF. See section 6.4.5 and 6.4.6 of this manual regarding procedures at Offutt and the surrounding airspace.

## 4.6 Lincoln Municipal Airport, Lincoln, NE (KLNK)

### 4.6.1 Communications

#### 4.6.1.1 Frequencies

The following frequencies are the ONLY frequencies allowed to be used in the KLNK Tower Cab. Your default voice server should be: *voice.downstairsgeek.com*. Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

***Position Name Login Name Frequency Voice Channel***

<b><i>Position Name</i></b>	<b><i>Frequency</i></b>	<b><i>Callsign</i></b>	<b><i>Voice Channel</i></b>
Lincoln ATIS	118.05	KLNK_ATIS	
Lincoln Ground	121.900	LNK_GND	Ink_121.90
Lincoln Tower	118.500	LNK_TWR	Ink_118.50
Omaha Approach LNK West	124.000	LNK_W_APP	r90_124.00
Omaha Approach LNK East	124.800	LNK_E_APP	r90_124.80

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

#### 4.6.1.2 ATIS (Automated Terminal Information System)

##### Voice ATIS

Voice ATIS broadcasts for KLNK can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

##### Position ATIS

Every KLNK Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

Position

Current ATIS Letter ID

Active Runways

Some other ATIS elements to consider including are:

Current weather (or time of current weather report being used to determine field conditions)

Types of Approaches in Use

Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

#### **4.6.2 Airport Layout / Runway Configuration**

KLNK has six (6) designated runways on three (3) landing surfaces. Here is a quick description of each surface:

18/36 – 12901x200' primary runway, used for all major air carrier operations

14/32- 8649x150' secondary runway, used for all major air carrier operations.

17/35 – 5400x100' secondary runway, used mainly for general aviation operations.

Note: On FS2004, Runway 18/36 is listed as 17R/35L and Runway 17/35 is listed as 17L/35R.

#### **4.6.3 Active Runway Selection**

When winds at KLNK are calm, you should use runway 36 as a designated calm wind runway unless a pilot requests a different runway. When winds are below 6 knots, select the three runway surfaces that are closest to the wind direction.

#### **4.6.4 Airspace Layout**

KLNK lies within Class C airspace. Class C covers an area laterally in an approximately 10 nautical mile radius

around KLNK up to 5,200 MSL. The lower limit is the surface within 5 nm of the airport and 2,700 MSL from 5 miles to 10 miles radius of KLNK.

When the KLNK ATCT is not staffed, airspace from the surface to 700' AGL

becomes Class G (uncontrolled) airspace. Above 700' AGL and within the

confines of the airport traffic area, airspace becomes Class E airspace.

Additional Class E airspace lies from 1200' AGL in all areas, and from 700' AGL within the lateral confines of the

following airports:

KCEK (Crete, NE)

KSWT (Seward, NE)

93Y (David City, NE)



#### 4.6.5 TRACON Procedures

The R90 APP/TRACON unit is responsible for radar services at LNK. LNK APP/DEP controls area laterally in an approximately 20 nautical mile radius around KLNK up to 5,200 MSL and 2,700 MSL from 5 miles to 20 miles radius of KLNK.

##### Transition Altitudes.

LNK Radar controllers will observe initial IFR climb altitudes on departure of 5000/4000' MSL (jets/props).

Transition Altitude is 15,000 feet.

When positions are not staffed at R90 APP, ZMP Center controllers will be responsible for radar services at KLNK.

The following procedures will be followed for certain radar services at KLNK:

IFR Release, Arrival, and Departure Coordination

Center shall hand aircraft off to LNK\_APP at the boundary of LNK\_APP airspace at or above 10,000 feet unless prior coordination is made. Approach should vector aircraft into the correct flow for the runway in use.

All aircraft should be direct to their first waypoint as soon as practical.

Approach/Departure should handle all IFR and VFR releases of aircraft.

Minimum Vectoring Altitudes – In general the MVA in LNK TRACON airspace is 3500' MSL.

##### Instrument Approach Procedures (IAPs)

Radar Controllers will provide radar services to Maintain IFR separation for traffic arriving on IAPs to KLNK. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at KLNK at all times.

*The following approaches are authorized at KLNK*

ILS OR LOC RWY 18

HI-ILS RWY 18

HI-ILS RWY 36

HI-VOR/DME OR TACAN RWY 18

HI-VOR/DME OR TACAN RWY 36

ILS OR LOC RWY 36

RNAV (GPS) RWY 14

RNAV (GPS) RWY 18

RNAV (GPS) RWY 36

VOR OR GPS RWY 17

VOR RWY 18

*The following approaches are authorized at KCEK (Crete Municipal):*

RNAV (GPS) RWY 17  
GPS RWY 35  
VOR/DME RWY 17  
VOR/DME RWY 35

*The following approaches are authorized at KSWT (Seward Municipal)*

GPS RWY 16  
GPS RWY 34  
NDB RWY 16  
NDB RWY 34

*The following approaches are authorized at 93Y (David City Municipal)*

GPS (RNAV) RWY 14  
GPS (RNAV) RWY 32  
VOR/DME RWY 32

**4.7 Des Moines Airport – Des Moines, IA (KDSM)**

**4.7.1 Communications**

**4.7.1.1 Frequencies**

The following frequencies are the ONLY frequencies allowed to be used in the KDSM Tower Cab. Your default voice server should be: *voice.downstairsgeek.com*.

Your

channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

***Position Name Login Name Frequency Voice Channel***

<b><i>Position Name</i></b>	<b><i>Frequency</i></b>	<b><i>Callsign</i></b>	<b><i>Voice Channel</i></b>
Des Moines ATIS	119.55	KDSM_ATIS	
Des Moines Ground	121.900	DSM_GND	DSM_121.90
Des Moines Tower	118.300	DSM_TWR	DSM_118.30
Des Moines Approach	123.900	DSM_APP	DSM_123.90

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

**4.7.1.2 ATIS (Automated Terminal Information System)**

Voice ATIS

Voice ATIS broadcasts for KDSM can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

Position ATIS

Every KDSM Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

Position

Current ATIS Letter ID

Active Runways

Some other ATIS elements to consider including are:

Current weather (or time of current weather report being used to determine field conditions)

### Types of Approaches in Use

Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

#### 4.7.2 Airport Layout / Runway Configuration

KDSM has four (4) designated runways on two (2) landing surfaces. Here is a quick description of each surface:

5/23 – 9003x150' primary runway, used for all major air carrier operations

13/31- 9001x150' secondary runway, used for all major air carrier operations.

#### 4.7.3 Active Runway Selection

When winds at KDSM are calm, you should use runway 31 as a designated calm wind runway unless a pilot requests a different runway. When winds are below 6 knots, select either 13 or 31 depending on which is closer to the wind direction.

#### 4.7.4 Airspace Layout

KDSM lies within Class C airspace. Within 5 nm of the DSM airport, the airspace extends from the surface up to 5000' MSL. Within 10 nm and beyond 5 nm the airspace shelf is 2,200' MSL to 5,000' MSL.

When the KDSM ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the confines of the airport traffic area, airspace becomes Class E airspace.

Additional Class E airspace lies from 700' AGL within the lateral confines of the

following airports:

KIKV (Ankeny Regional, IA)

#### 4.7.5 TRACON Procedures

The DSM APP/TRACON unit is responsible for radar services at KDSM. DSM APP/DEP controls area laterally in an approximately 20 nautical mile radius around KDSM up to 12,000' MSL.

Transition Altitudes.

DSM Radar controllers will observe initial IFR climb altitudes on departure of 5000/3000 MSL (jets/props).

Transition Altitude is 10,000 feet.

When positions are not staffed at DSM APP, ZMP Center controllers will be responsible for radar services at KDSM.

The following procedures will be followed for certain radar services at KDSM:  
IFR Release, Arrival, and Departure Coordination

Center shall hand aircraft off to DSM\_APP at the boundary of DSM\_APP airspace at or above 10,000 feet unless prior coordination is made. Approach should vector aircraft into the correct flow for the runway in use.

All aircraft should be direct to their first waypoint as soon as practical.

Approach/Departure should handle all IFR and VFR releases of aircraft.

There is 1 Standard Instrument Departure procedure which is the Des Moines 5.

Minimum Vectoring Altitudes – In general the MVA in areas north of the DSM VORTAC is 4000 MSL and south being 2800 MSL.

#### Instrument Approach Procedures (IAPs)

Radar Controllers will provide radar services to Maintain IFR separation for traffic arriving on IAPs to KDSM. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at KDSM at all times.

*The following approaches are authorized at KDSM*

ILS or LOC 13

ILS or LOC 31

HI ILS 31

ILS or LOC 5

RNAV/GPS 5

RNAV/GPS 13

RNAV/GPS 23

RNAV/GPS 31

VOR/DME 23

*The following approaches are authorized at KIKV (Ankeny Regional):*

ILS 36

RNAV/GPS 18

RNAV/GPS 22

GPR 36

#### Departure procedures:

Aircraft departing DSM can file for the DSM5 departure. The Des Moines Five departure is a radar vector departure, with the following as VOR transitions:

SUX, FSD, GEP, FOD, DSM, OVR, LNK, LMN, ALO, DBQ, MCW, TNL, CID, ORD, IOW, BDF, BRL, UIN, IRK, STJ, TOP, MCI, OTM,

**4.8 Joe Foss Field Airport, Sioux Falls, SD (KFSD)**

**4.8.1 Communications**

**4.8.1.1 Frequencies**

The following frequencies are the ONLY frequencies allowed to be used in the KFSD Tower Cab. Your default voice server should be: *voice.downstairsgeek.com*. Your

channel must be EXACTLY as listed as below, **NO EXCEPTIONS.**

***Position Name Login Name Frequency Voice Channel***

<b><i>Position Name</i></b>	<b><i>Frequency</i></b>	<b><i>Callsign</i></b>	<b><i>Voice Channel</i></b>
FSD ATIS	126.60	KFSD_ATIS	
FSD GND	121.900	FSD_GND	FSD_121.90
FSD TWR	118.300	FSD_TWR	FSD_118.30
FSD APP	125.800	FSD_APP	FSD_125.80

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

**4.8.1.2 ATIS (Automated Terminal Information System)**

Voice ATIS

Voice ATIS broadcasts for KFSD can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

Position ATIS

Every KFSD Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

- Position
- Current ATIS Letter ID
- Active Runways
- Some other ATIS elements to consider including are:
- Current weather (or time of current weather report being used to determine field conditions)

### Types of Approaches in Use

Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

#### 4.8.2 Airport Layout / Runway Configuration

KFSD has six (6) designated runways on three (3) landing surfaces. Here is a quick description of each surface:

3/21 – 8999x150' primary runway, used for all major air carrier operations

15/33- 8000x150' secondary runway, used for all major air carrier operations.

9/27 – 3152x75' secondary runway, used light general aviation operations.

#### 4.8.3 Active Runway Selection

When winds at KFSD are calm, you should use runway 3 as a designated calm wind runway unless a pilot requests a different runway.

#### 4.8.4 Airspace Layout

KFSD lies within Class D airspace. The lateral limit is a 5 nm radius, and the vertical limit is 3900' MSL.

When the KFSD ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the confines of the airport traffic area, airspace becomes Class E airspace.

#### 4.8.4 TRACON Procedures

The FSD APP/TRACON unit is responsible for radar services at KFSD. FSD APP/DEP controls area laterally in an approximately 20 nautical mile radius around KFSD, from the lower limit of all Class E airspace up to 12,000'

Transition Altitudes.

FSD Radar controllers will observe initial IFR climb altitudes on departure of 7000/5000 MSL (jets/props).

Transition Altitude is 12,000 feet.

When positions are not staffed at FSD APP, ZMP Center controllers will be responsible for radar services at KFSD.

The following procedures will be followed for certain radar services at KFSD:

### IFR Release, Arrival, and Departure Coordination

Center shall hand aircraft off to FSD\_APP at the boundary of FSD\_APP airspace at or above 10,000 feet unless prior coordination is made. Approach should vector aircraft into the correct flow for the runway in use.

All aircraft should be direct to their first waypoint as soon as practical.

Approach/Departure should handle all IFR and VFR releases of aircraft.

Minimum Vectoring Altitudes – In general the MVA in areas west through north through east through south of the KFSD is 4500' MSL and south through west quadrant it is 3500' MSL.

### Instrument Approach Procedures (IAPs)

Radar Controllers will provide radar services to Maintain IFR separation for traffic arriving on IAPs to KFSD. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at KFSD at all times.

*The following approaches are authorized at KFSD*

ILS or LOC RWY 03

ILS or LOC RWY 21

HI-ILS RWY 03

HI-ILS RWY 21

RNAV/GPS RWY 03

RNAV/GPS RWY 09

RNAV/GPS RWY 15

RNAV/GPS RWY 21

RNAV/GPS RWY 27

RNAV/GPS RWY 33

VOR/DME OR TACAN RWY 33

HI-TACAN RWY 15

VOR OR TACAN RWY 15



**4.9 Sioux Gateway Airport/ Col. Bud Day Field, Sioux City, IA (KSUX)**

**4.9.1 Communications**

**4.9.1.1 Frequencies**

The following frequencies are the ONLY frequencies allowed to be used in the KSUX Tower Cab. Your default voice server should be: *voice.downstairsgeek.com*. Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

<b>Position Name</b>	<b>Frequency</b>	<b>Callsign</b>	<b>Voice Channel</b>
Sioux City ATIS	119.450	KSUX_ATIS	
Sioux City Ground	121.900	SUX_GND	SUX_121.90
Sioux City Tower	118.700	SUX_TWR	SUX_118.70
Sioux City Approach	124.600	SUX_APP	SUX_124.60

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

**4.9.1.2 ATIS (Automated Terminal Information System)**

Voice ATIS

Voice ATIS broadcasts for KSUX can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

Position ATIS

Every KSUX Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

Position

Current ATIS Letter ID

Active Runways

Some other ATIS elements to consider including are:

Current weather (or time of current weather report being used to determine field conditions)

Types of Approaches in Use

Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current

with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

#### **4.9.2 Airport Layout / Runway Configuration**

KSUX has four (4) designated runways on two (2) landing surfaces. Here is a quick description of each surface:

13/31 – 9002x150' primary runway, used for all major air carrier operations

17/35- 6600x150' secondary runway, used for mainly general aviation operations.

#### **4.9.3 Active Runway Selection**

When winds at KSUX are calm, you should use runway 31 as a designated calm wind runway unless a pilot requests a different runway. Otherwise, winds dictate the runway(s) in use.

#### **4.9.4 Airspace Layout**

KSUX lies within Class D airspace. The lateral limit is a 5 nm radius, and the vertical limit is 3600' MSL.

When the KSUX ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the confines of the airport traffic area, airspace becomes Class E airspace.

#### **4.9.5 TRACON Procedures**

The SUX APP/TRACON unit is responsible for radar services at KSUX. SUX APP/DEP controls area laterally in an approximately 20 nautical mile radius around KSUX, from the lower limit of all Class E airspace up to 12,000'

##### Transition Altitudes

SUX Radar controllers will observe initial IFR climb altitudes on departure of 7000/5000 MSL (jets/props).

Transition Altitude is 12,000 feet for jets and 10000 feet for Props.

When positions are not staffed at SUX APP, ZMP Center controllers will be responsible for radar services at KSUX.

The following procedures will be followed for certain radar services at KSUX:

##### IFR Release, Arrival, and Departure Coordination

Center shall hand aircraft off to SUX\_APP at the boundary of SUX\_APP airspace at or above 12,000 feet unless prior coordination is made. Approach should vector aircraft into the correct flow for the runway in use.

All aircraft should be direct to their first waypoint as soon as practical. There are no arrival or departure procedures at KSUX.

Approach/Departure should handle all IFR and VFR releases of aircraft, though they will usually not have radar control of VFR departures in Class D airspace. There are no Arrival or Departure procedures at SUX or any satellite airports. Instrument Approach Procedures (IAPs)

*The following approaches are valid at KSUX*

ILS or LOC RWY 13

ILS or LOC RWY 31

HI-ILS RWY 13

HI-ILS RWY 31

GPS RWY 17

VOR/DME OR TACAN OR GPS RWY 13

HI-TACON OR VOR/DME RWY 13

HI-TACON OR VOR/DME RWY 31

VOR OR TACAN OR GPS RWY 31

NDB RWY 13

NDB RWY 17

NDB RWY 31

NDB RWY 35

## 4.10 Central Nebraska Regional Airport, Grand Island (KGRI)

### 4.10.1 Communications

#### 4.10.1.2 Frequencies

The following frequencies are the ONLY frequencies allowed to be used in the KGRI Tower Cab. Your default voice server should be: [voice.downstairsgeek.com](http://voice.downstairsgeek.com). Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

<i>Position Name</i>	<i>Frequency</i>	<i>Callsign</i>	<i>Voice Channel</i>
GRI ATIS	127.40	KGRI_ATIS	
GRI Ground	121.900	GRI_GND	GRI_121.90
GRI Tower	118.200	GRI_TWR	GRI_118.20

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

#### 4.10.1.2 ATIS (Automated Terminal Information System)

##### Voice ATIS

Voice ATIS broadcasts for KGRI can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

##### Position ATIS

Every KGRI Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

Position

Current ATIS Letter ID

Active Runways

Some other ATIS elements to consider including are:

Current weather (or time of current weather report being used to determine field conditions)

-Types of Approaches in Use

-Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

#### **4.10.2 Airport Layout / Runway Configuration**

KGRI has four (4) designated runways on two (2) landing surfaces. Here is a quick description of each surface:

17/35 – 7002x150' primary runway, used for all major air carrier operations

13/31 - 6608x100' secondary runway, used for mainly general aviation operations.

#### **4.10.3 Active Runway Selection**

Wind conditions will primarily determine runway selection at KGRI. Alternative runway selection may be requested by pilots.

#### **4.10.4 Airspace Layout**

KGRI lies within Class D airspace. The lateral limit is a 5 nm radius, and the vertical limit is 4300' MSL.

When the KGRI ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the confines of the airport traffic area, airspace becomes Class E airspace.

#### **4.10.5 KGRI Radar Service/Approach Procedures**

ZMP Center provides radar services at KGRI and the surrounding area. The following procedures will be followed for certain radar services at GRI:

Transition Altitudes.

GRI controllers will observe initial IFR climb altitudes on departure of 3000 MSL (jets and props).

Minimum Vectoring Altitudes – In general the MVA in areas around KGRI is 4300 MSL.

Instrument Approach Procedures (IAPs)

Radar Controllers will provide radar services to Maintain IFR separation for traffic arriving on IAPs to KGRI. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at KGRI at all times.

*The following approaches are authorized at KGRI*

ILS or LOC RWY 35  
RNAV/GPS RWY 13  
RNAV/GPS RWY 17  
RNAV/GPS RWY 31  
RNAV/GPS RWY 35  
LOC/DME BC RWY 17  
VOR/DME RWY 31  
VOR/DME RWY 35  
VOR RWY 13  
VOR RWY 17

**END OF SECTION**

## SECTION 5

### Dakota Facility Group Standard Operating Procedures

#### 5.1 Purpose

The Dakota Standard Operating Procedures defines a uniform set of procedures for all controllers to follow while working positions in the ATC facilities of the Dakota Facility Group. The airports/facilities below are included in the Dakota Facility Group:

Identifier	Location	Facility	LCTP/Minor Classification
KFAR	Fargo, ND	Class D TRACON	Minor
KGFK	Grand Forks, ND	Class D RAPCON	Minor
KRDR	Grand Forks Air Force Base, ND	Class D RAPCON/ATCT	Minor
KMOT	Minot, ND	Class D RAPCON	Minor
KMIB	Minot Air Force Base, ND	Class D RAPCON/ATCT	Minor

#### 5.2 Pre-requisites and Position Restrictions

All airports in this group are designated minor airports. Controllers will be permitted to work tower cab positions at all airports within this group once the appropriate VATSIM rating has been obtained.

#### 5.3 Departure Coordination

##### Aircraft on IFR Flight Plans

All IFR departures shall be coordinated with the higher controlling position from the ATCT, if staffed (i.e. GFK or MSP\_CTR). The coordination shall include IFR clearance and release instructions to be relayed to the aircraft. Before an IFR departure occurs, the TWR controller shall contact the higher controlling position via G/G communication or text messaging to obtain IFR release.

##### IFR Release Coordination and Communication Example:

1. Aircraft calls ready for departure:  
*Grand Forks Tower 2323F ready for departure runway 35L”*
2. Advise aircraft to hold awaiting IFR release:  
*“King Air 2323F, Grand Forks Tower, hold short awaiting IFR release”*

3. Contact higher controlling position for IFR release via G/G or text message:  
*“Minneapolis Center, Fargo Tower, IFR release for N2323F, runway 36” (or similar)*

7. IFR Release is granted (center responds):

*“N2323F is released, depart runway 36 heading 330, void if not off in 5 minutes..KP”*

7. Takeoff clearance given to aircraft:

*“N2323F, wind 360 at 6, fly heading 330, runway 36 cleared for takeoff”*

7. Ensure positive communication handoff (after altitude change and heading change is confirmed):

*“N2323F contact Minneapolis Center 133.40, good day!”*



## 5.4 Hector International Airport, Fargo ND (KFAR)

### 5.4.1 Communications

#### 5.4.1.1 Frequencies

The following frequencies are the ONLY frequencies allowed to be used in the KFAR Tower Cab. Your default voice server should be: *voice.downstairsgeek.com*. Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

<b><i>Position Name</i></b>	<b><i>Frequency</i></b>	<b><i>Callsign</i></b>	<b><i>Voice Channel</i></b>
Fargo ATIS	124.50	KFAR_ATIS	
Fargo Ground	121.900	FAR_GND	far_121.90
Fargo Tower	133.800	FAR_TWR	far_133.80
Fargo Approach	120.400	FAR_APP	far_120.40

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

#### 5.4.1.2 ATIS (Automated Terminal Information System)

##### Voice ATIS

Voice ATIS broadcasts for KFAR can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

##### Position ATIS

Every KFAR Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

- Position
- Current ATIS Letter ID
- Active Runways
- Some other ATIS elements to consider including are:
  - Current weather (or time of current weather report being used to determine field conditions)
  - Types of Approaches in Use
  - Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for

determining ATIS content.

#### **5.4.2 Airport Layout / Runway Configuration**

KFAR has six (6) designated runways on three (3) landing surfaces. Here is a quick description of each surface:

18/36 – 9000x150' primary runway, used for all major air carrier operations  
9/27- 6300x100' secondary runway, used for mainly general aviation operations.

In Flight Simulator 2004, 18/36 is by default designated as 17/35.

#### **5.4.3 Active Runway Selection**

When winds at KFAR are calm, you should use runway 36 as a designated calm wind runway unless a pilot requests a different runway.

#### **5.4.4 Airspace Layout**

KFAR lies within Class D airspace (Fargo TRSA – Terminal Radar Service Area). The lateral limit is a 5 nm radius, and the vertical limit is 3400' MSL.

When the KFAR ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the confines of the airport traffic area, airspace becomes Class E airspace.

#### **5.4.5 TRSA Procedures**

The FAR APP/TRSA unit is responsible for radar services at KFAR. FAR APP/DEP controls area laterally to approximately 5 nautical mile radius around KFAR from the surface to 10000' MSL, from 5 NM to 20 NM 2500' to 10000' MSL and from 20 NM to 30 NM from 6000' to 10000' MSL.

Transition Altitudes.

FAR Radar controllers will observe initial IFR climb altitudes on departure of 4000 MSL.

Transition Altitude is 10,000 feet.

When positions are not staffed at FAR APP, ZMP Center controllers will be responsible for radar services at KFAR.

The following procedures will be followed for certain radar services at KFAR:  
IFR Release, Arrival, and Departure Coordination  
Center shall hand aircraft off to FAR\_APP at the boundary of FAR\_APP airspace at or above 10,000 feet unless prior coordination is made. Approach should vector aircraft into the correct flow for the runway in use.

All aircraft should be direct to their first waypoint as soon as practical.

Approach/Departure should handle all IFR and VFR releases of aircraft.

Minimum Vectoring Altitudes – In general the MVA in areas of the northwest quadrant from KFAR is 4200 MSL, southwest quadrant 3200 MSL, and northeast and southeast quadrants 2700 MSL.

#### Instrument Approach Procedures (IAPs)

Radar Controllers will provide radar services to Maintain IFR separation for traffic arriving on IAPs to KFAR. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at KFAR at all times.

*The following approaches are authorized at KFAR*

ILS or LOC RWY 18  
ILS or LOC RWY 36  
RNAV/GPS RWY 09  
RNAV/GPS RWY 18  
RNAV/GPS RWY 27  
RNAV/GPS RWY 36  
VOR/DME OR TACAN RWY 18  
HI-TACAN RWY 36  
HI-VOR OR TACAN RWY 36  
VOR OR TACAN RWY 36

*The following approaches are authorized at KJKJ (Moorhead Municipal):*

RNAV/GPS RWY 30  
VOR-A

*The following approaches are authorized at 3H4 (Hillsboro Municipal)*

RNAV/GPS RWY 16  
RNAV/GPS RWY 34

*The following approaches are authorized at D00 (Norman County Ada/Twin Valley Airport)*

GPS RWY 33

*The following approaches are authorized at 04Y (Hawley Municipal):*

RNAV/GPS RWY 34  
VOR/DME - A

*The following approaches are authorized at 5N8 (Casselton Robert Miller Regional)*

RNAV/GPS RWY 13  
RNAV/GPS RWY 31  
VOR/DME RWY 31

## 5.5 Grand Forks International Airport (KGFK)

### 5.5.1 Communications

#### 5.5.1.1 Frequencies

The following frequencies are the ONLY frequencies allowed to be used in the KGFK Tower Cab. Your default voice server should be: *voice.downstairsgeek.com*. Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

***Position Name Login Name Frequency Voice Channel***

<b><i>Position Name</i></b>	<b><i>Frequency</i></b>	<b><i>Callsign</i></b>	<b><i>Voice Channel</i></b>
Grand Forks ATIS	119.4	KGFK_ATIS	
Grand Forks Ground	124.575	GFK_GND	gfk_124.57
Grand Forks Tower	118.400	GFK_TWR or GFK_W_TWR	gfk_118.40
Grand Forks Tower	120.550	GFK_E_TWR	gfk_120.55
Grand Forks Approach	118.100	RDR_APP	rdr_118.10
Grand Forks Approach	132.300	RDR_V_APP	rdr_132.30

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

#### 5.5.1.2 ATIS (Automated Terminal Information System)

##### Voice ATIS

Voice ATIS broadcasts for KGFK can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

##### Position ATIS

Every KGFK Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

Position

Current ATIS Letter ID

Active Runways

Some other ATIS elements to consider including are:

Current weather (or time of current weather report being used to determine field conditions)

Types of Approaches in Use

Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

### **5.5.2 Airport Layout / Runway Configuration**

KGFK has six (6) designated runways on three (3) landing surfaces. Here is a quick description of each surface:

17R/35L – 7351x150' primary runway, used for all major air carrier operations

17L/35R- 3901x75' secondary runway, used for mainly general aviation operations.

9L/27R – 4206x100' secondary runway, used for mainly general aviation operations.

Runway 9R/27L is under construction and will open Spring 2009.

### **5.5.3 Active Runway Selection**

When winds at KGFK are calm, you should use runway 35L as a designated calm wind runway unless a pilot requests a different runway. When winds are below 6 knots, select either 17R or 35L depending on which is closer to the wind direction.

### **5.5.4 Airspace Layout**

KGFK lies within Class D airspace. The lateral limit is a 4.2 nm radius, and the vertical limit is 3300' MSL.

When the KGFK ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the confines of the airport traffic area, airspace becomes Class E airspace.

Tower may be split during events or when traffic levels warrant it. Frequency 118.40 covers runway 17R/35L and 9L/27R. Frequency 120.55 covers runway 17L/35R.

### **5.5.5 TRACON Procedures**

RDR RAPCON is responsible for TRACON services at both GFK and RDR.

GFK APP/DEP controls area laterally in an approximately 20 nautical mile radius around KGFK, from the lower limit of all Class E airspace up to 12,000'.

When split, 118.100 frequency handles IFR arrivals and departures and 132.300 would handle VFR. Other splits may vary based on traffic levels.

#### Transition Altitudes.

GFK Radar controllers will observe initial IFR climb altitudes on departure of 5000/3000 MSL (jets/props).

Transition Altitude is 12,000 feet.

When positions are not staffed at GFK APP, ZMP Center controllers will be responsible for radar services at KGFK and KRDR.

The following procedures will be followed for certain radar services at KGFK and KRDR.  
IFR Release, Arrival, and Departure Coordination

Center shall hand aircraft off to GFK\_APP at the boundary of GFK\_APP airspace at or above 12,000 feet unless prior coordination is made. Approach should vector aircraft into the correct flow for the runway in use.

All aircraft should be direct to their first waypoint as soon as practical.

Departure procedures: When traffic necessitates, Aircraft departing Grand Forks shall be restricted to runway heading below 2500' MSL. Upon leaving 2500, aircraft may turn 30 degrees towards their course. Upon reaching 3500', aircraft may be cleared on course.

Approach/Departure should handle all IFR and VFR releases of aircraft.

Minimum Vectoring Altitudes – In general the MVA in areas west of the KGFK is 3300 MSL and to the east is 2700 MSL.

#### Instrument Approach Procedures (IAPs)

Radar Controllers will provide radar services to Maintain IFR separation for traffic arriving on IAPs to KGFK. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at KGFK at all times.

*The following approaches are authorized at KGFK*

ILS or LOC RWY 35L  
RNAV/GPS RWY 09L  
RNAV/GPS RWY 17R  
RNAV/GPS RWY 27R  
RNAV/GPS RWY 35L  
LOC BC RWY 17R  
VOR RWY 17R  
VOR RWY 35L

*The following approaches are authorized at KRDR*

ILS OR LOC RWY 17  
ILS OR LOC RWY 35

HI-ILS OR LOC RWY 17  
HI-ILS OR LOC RWY 35  
HI-TACAN RWY 17  
HI-TACAN RWY 35  
TACAN RWY 17  
TACAN RWY 35

The following approaches are authorized at KCKN (Crookston, MN)  
RNAV (GPS) RWY 13  
RNAV (GPS) RWY 31  
VOR/DME RWY 13  
NDB RWY 13

The following approaches are authorized at KGAF (Grafton, ND)  
RNAV (GPS) RWY 17  
RNAV (GPS) RWY 35

The following approach is valid at D37 (Warren, MN)  
RNAV (GPS) RWY 30

The following approach is valid at 4V4 (Northwood, ND)  
RNAV (GPS) RWY 26

## 5.6 Grand Forks Air Force Base (KRDR)

### 5.6.1 Communications

#### 5.6.1.1 Frequencies

The following frequencies are the ONLY frequencies allowed to be used in the KRDR Tower Cab. Your default voice server should be: *voice.downstairsgeek.com*. Your

channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

***Position Name Login Name Frequency Voice Channel***

<b><i>Position Name</i></b>	<b><i>Frequency</i></b>	<b><i>Callsign</i></b>	<b><i>Voice Channel</i></b>
Red River Ground	119.150	RDR_GND	rdr_119.15
Red River Tower	124.900	RDR_TWR	rdr_124.90
Grand Forks Approach	118.100	RDR_APP	rdr_118.10

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

#### 5.6.1.2 ATIS (Automated Terminal Information System)

##### Voice ATIS

Voice ATIS broadcasts for KRDR can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.



## Position ATIS

Every KRDR Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

Position

Current ATIS Letter ID

Active Runways

Some other ATIS elements to consider including are:

Current weather (or time of current weather report being used to determine field conditions)

Types of Approaches in Use

Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

### **5.6.2 Airport Layout / Runway Configuration**

KRDR has two (2) designated runways on one (1) landing surface. Here is a quick description of each surface:

17/35 – 12350x150' primary runway, used for all major air carrier operations

### **5.6.3 Active Runway Selection**

When winds at KRDR are calm, you should use runway 35 as a designated calm wind runway unless a pilot requests a different runway.

### **5.6.4 Airspace Layout**

KRDR lies within Class D airspace. The lateral limit is a 5 nm radius, and the vertical limit is 3400' MSL.

When the KRDR ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the confines of the airport traffic area, airspace becomes Class E airspace.

**Please reference 7.5.5 for Grand Forks AFB TRACON Procedures**

**5.7 Minot International Airport, Minot, ND (KMOT)**

**5.7.1 Communications**

**5.7.1.1 Frequencies**

The following frequencies are the ONLY frequencies allowed to be used in the KMOT Tower Cab. Your default voice server should be: *voice.downstairsgeek.com*. Your

channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

***Position Name Login Name Frequency Voice Channel***

<b><i>Position Name</i></b>	<b><i>Frequency</i></b>	<b><i>Callsign</i></b>	<b><i>Voice Channel</i></b>
Magic City Ground	121.900	MOT_GND	MOT_121.90
Magic City Tower	118.200	MOT_TWR	MOT_118.20
Minot Approach	119.600	MOT_APP	MOT_119.60

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

**5.7.1.2 ATIS (Automated Terminal Information System)**

Voice ATIS

Voice ATIS broadcasts for KMOT can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

Position ATIS

Every KMOT Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

Position

Current ATIS Letter ID

Active Runways

Some other ATIS elements to consider including are:

Current weather (or time of current weather report being used to determine field conditions)

Types of Approaches in Use

Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

### **5.7.2 Airport Layout / Runway Configuration**

KMOT has four (4) designated runways on two (2) landing surfaces. Here is a quick description of each surface:

13/31 – 7700x150' primary runway, used for all major air carrier operations

8/26 - 6351x100' secondary runway, used for all general aviation operations.

### **5.7.3 Active Runway Selection**

When winds at KMOT are calm, you should use runway 31 as a designated calm wind runway unless a pilot requests a different runway.

### **7.7.4 Airspace Layout**

KMOT lies within Class D airspace. The lateral limit is a 5 nm radius, and the vertical limit is 4200' MSL.

When the KMOT ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the confines of the airport traffic area, airspace becomes Class E airspace.

### 5.7.5 TRACON Procedures

The MOT APP/TRACON unit is responsible for radar services at KMOT as well as KMIB. MOT

APP/DEP controls area laterally in an approximately 20 nautical mile radius around KMOT and KMIB, from the lower limit of all Class E airspace up to 12,000'.

Transition Altitudes.

MOT Radar controllers will observe initial IFR climb altitudes on departure of 7000/5000 MSL (jets/props).

Transition Altitude is 12,000 feet for jets and 10,000 feet for props.

When positions are not staffed at MOT APP, ZMP Center controllers will be responsible for radar services at KMOT.

The following procedures will be followed for certain radar services at KMOT:

IFR Release, Arrival, and Departure Coordination

Center shall hand aircraft off to MOT\_APP at the boundary of MOT\_APP airspace at or above 10,000 feet unless prior coordination is made. Approach should vector aircraft into the correct flow for the runway in use.

All aircraft should be direct to their first waypoint as soon as practical.

Approach/Departure should handle all IFR and VFR releases of aircraft.

Minimum Vectoring Altitudes – In general the MVA in areas north of the MOT VOR is 3700 MSL and 4200 MSL south of the MOT VOR.

Instrument Approach Procedures (IAPs)

Radar Controllers will provide radar services to Maintain IFR separation for traffic arriving on IAPs to KMOT. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at KMOT at all times.

*The following approaches are authorized at KMOT*

ILS or LOC RWY 31

RNAV/GPS RWY 13

RNAV/GPS RWY 31

FOC/DME BC RWY 13

VOR OR GPS RWY 08

VOR OR GPS RWY 26

VOR RWY 13

VOR RWY 31

*The following approaches are authorized at KMIB (Minot AFB)*

HI-ILS RWY 11

HI-ILS RWY 29

HI-ILS Y RWY 29

ILS RWY 11

ILS RWY 29

ILS Y RWY 29

HI-TACAN RWY 11

HI-TACAN RWY 29

TACAN RWY 11

TACAN RWY 29

COPTER TACAN 122

COPTER TACAN 289

*The following approaches are valid at KHBC – Mohall, ND*

RNAV (GPS) RWY 31

VOR/DME RWY 31

**END OF SECTION**

## SECTION 6

### Wolverine State Facility Group Standard Operating Procedures

#### 6.1 Purpose

The Wolverine State Standard Operating Procedures defines a uniform set of procedures for all controllers to follow while working positions in the ATC facilities of the Wolverine State Facility Group. The airports/facilities below are included in the Wolverine State Facility Group:

Identifier	Location	Facility	LCTP/Minor Classification
KAPN	Alpena, MI	Class D RAPCON/ATCT	Minor
KSAW	Sawyer, MI	Class D ATCT	Minor
KTVC	Traverse City, MI	Class D ATCT	Minor
KGOV	Grayling AAF, MI	Class D ATCT*	Minor

\*Grayling AAF is a Tower staffed by military NOTAM only.

#### 6.2 Pre-requisites and Position Restrictions

All airports in this group are designated minor airports. Controllers will be permitted to work tower cab positions at all airports within this group once the appropriate VATSIM rating has been obtained.

#### 6.3 Departure Coordination

##### Aircraft on IFR Flight Plans

All IFR departures shall be coordinated with the higher controlling position from the ATCT, if staffed (i.e. MSP\_CTR). The coordination shall include IFR clearance and release instructions to be relayed to the aircraft. Before an IFR departure occurs, the TWR controller shall contact the higher controlling position via G/G communication or text messaging to obtain IFR release.

##### IFR Release Coordination and Communication Example:

1. Aircraft calls ready for departure:  
*“Sawyer Tower, King Air 2323F ready for departure runway 19”*
2. Advise aircraft to hold awaiting IFR release:

*“King Air 2323F, Sawyer Tower, hold short awaiting IFR release”*

3. Contact higher controlling position for IFR release via G/G or text message:

*“Minneapolis Center, Sawyer Tower, IFR release for N2323F, runway 19” (or similar)*

8. IFR Release is granted (center responds):

*“N2323F is released, depart runway 19 heading 330, void if not off in 5 minutes..KP”*

8. Takeoff clearance given to aircraft:

*“N2323F, wind 190 at 6, fly heading 190 on departure, runway 19 cleared for takeoff”*

6. Ensure positive communication handoff (after altitude change and heading change is confirmed):

*“N2323F contact Minneapolis Center now on 133.40, good day!”*



## 6.4 Alpena County Regional Airport (KAPN)

### 6.4.1 Communications

#### 6.4.1.1 Frequencies

The following frequencies are the ONLY frequencies allowed to be used in the KAPN Tower Cab. Your default voice server should be: *voice.downstairsgeek.com*. Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

***Position Name Login Name Frequency Voice Channel***

<b><i>Position Name</i></b>	<b><i>Frequency</i></b>	<b><i>Callsign</i></b>	<b><i>Voice Channel</i></b>
APN ASOS	120.675	KAPN_ATIS	
APN Ground	121.900	APN_GND	apn_121.90
APN Tower	121.350	APN_TWR	apn_121.35
APN Approach	128.425	APN_APP	apn_128.42

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

#### 6.4.1.2 ATIS (Automated Terminal Information System)

##### Voice ATIS

Voice ATIS broadcasts for KAPN can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

##### Position ATIS

Every KAPN Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

- Position
- Current ATIS Letter ID
- Active Runways
- Some other ATIS elements to consider including are:
  - Current weather (or time of current weather report being used to determine field conditions)
  - Types of Approaches in Use
  - Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each

new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

#### **6.4.2 Airport Layout / Runway Configuration**

KAPN has four (4) designated runways on two (2) landing surfaces. Here is a quick description of each surface:

1/19 – 9001x150' primary runway, used for all major air carrier operations

7/25- 5031x100' secondary runway, used for mainly general aviation operations.

#### **6.4.3 Active Runway Selection**

When winds at KAPN are calm, you should use runway 01 as a designated calm wind runway unless a pilot requests a different runway.

#### **6.4.4 Airspace Layout**

KAPN lies within Class D airspace. The lateral limit is a 5 nm radius, and the vertical limit is 3200' MSL.

When the KAPN ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the confines of the airport traffic area, airspace becomes Class E airspace.

#### **6.4.5 RAPCON Procedures**

The APN RAPCON (Radar Approach Control) unit is responsible for radar services at KAPN. APN APP/DEP controls area laterally in an approximately 10 nautical mile radius around KAPN, from the lower limit of all Class E airspace up to 12,000'

Transition Altitudes.

APN Radar controllers will observe initial IFR climb altitudes on departure of 7000/5000 MSL (jets/props).

When positions are not staffed at APN APP, ZMP Center controllers will be responsible for radar services at KAPN.

The following procedures will be followed for certain radar services at KAPN:

IFR Release, Arrival, and Departure Coordination

Center shall hand aircraft off to APN\_APP at the boundary of APN\_APP airspace at or above 10,000 feet unless prior coordination is made. Approach should vector aircraft into the correct flow for the runway in use.

All aircraft should be direct to their first waypoint as soon as practical.

Approach/Departure should handle all IFR and VFR releases of aircraft.

Minimum Vectoring Altitudes – In general the MVA in the northwest quadrant from KAPN is 3500 MSL and north through east through south through west being 2800 MSL.

#### Instrument Approach Procedures (IAPs)

Radar Controllers will provide radar services to Maintain IFR separation for traffic arriving on IAPs to KAPN. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at KAPN at all times.

*The following approaches are authorized at KAPN*

ILS RWY 01

HI-ILS/DME RWY 01

HI-VOR/DME OR TACAN RWY 01

HI-TACON 19

VOR OR GPS RWY 19

VOR RWY 01

*NDB OR GPS RWY 01*

**6.5 Sawyer International Airport , Marquette, MI (KSAW)**

**6.5.1 Communications**

**6.5.1.1 Frequencies**

The following frequencies are the ONLY frequencies allowed to be used in the KSAW Tower Cab. Your default voice server should be: *voice.downstairsgeek.com*. Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

***Position Name Login Name Frequency Voice Channel***

<b><i>Position Name</i></b>	<b><i>Frequency</i></b>	<b><i>Callsign</i></b>	<b><i>Voice Channel</i></b>
Sawyer Ground	121.650	SAW_GND	saw_121.65
Sawyer Tower	119.970	SAW_TWR	saw_119.97

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

**6.5.1.2 ATIS (Automated Terminal Information System)**

Voice ATIS

Voice ATIS broadcasts are not available at KSAW.

Position ATIS

Every KSAW Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

- Position
- Current ATIS Letter ID
- Active Runways
- Some other ATIS elements to consider including are:
- Current weather (or time of current weather report being used to determine field conditions)
- Types of Approaches in Use
- Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

## 6.5.2 Airport Layout / Runway Configuration

KSAW has two (2) designated runways on one (1) landing surface. Here is a quick description of each surface:

1/19 – 12370x150' primary runway, used for all major air carrier operations.

## 6.5.3 Active Runway Selection

When winds at KSAW are calm, you should use runway 01 as a designated calm wind runway unless a pilot requests a different runway.

## 6.5.4 Airspace Layout

KSAW lies within Class D airspace. The lateral limit is a 5 nm radius, and the vertical limit is 3700' MSL.

When the KSAW ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the confines of the airport traffic area, airspace becomes Class E airspace.

## 6.5.5 KSAW Radar Service/Approach Procedures

ZMP Center provides radar services at KSAW and the surrounding area. The following procedures will be followed for certain radar services at SAW:

Minimum Vectoring Altitudes – In general the MVA in areas in the North West quadrant from KSAW is 3700 MSL and from North through East through South through West is 3100 MSL.

### Instrument Approach Procedures (IAPs)

Radar Controllers will provide radar services to Maintain IFR separation for traffic arriving on IAPs to KSAW. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at KSAW at all times.

*The following approaches are authorized at KSAW*

ILS RWY 01

RNAV/GPS RWY 19

VOR RWY 01

VOR RWY 19

*NDB RWY 01*

## 6.6 Cherry Capital Airport, Traverse City MI (KTVC)

### 6.6.1 Communications

#### 6.6.1.1 Frequencies

The following frequencies are the ONLY frequencies allowed to be used in the KTVCTower Cab. Your default voice server should be: *voice.downstairsgeek.com*. Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

***Position Name Login Name Frequency Voice Channel***

<b><i>Position Name</i></b>	<b><i>Frequency</i></b>	<b><i>Callsign</i></b>	<b><i>Voice Channel</i></b>
TVC ATIS	119.170	KTVC_ATIS	
Traverse City Ground	121.800	TVC_GND	tvc_121.80
Traverse City Tower	124.200	TVC_TWR	tvc_124.20

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

#### 8.6.1.2 ATIS (Automated Terminal Information System)

##### Voice ATIS

Voice ATIS broadcasts for KTVC can be made utilizing the frequency listed above. Voice ATIS will meet VATSIM/VATUSA regulation standards.

##### Position ATIS

Every KTVCTower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

- Position

- Current ATIS Letter ID

- Active Runways

- Some other ATIS elements to consider including are:

- Current weather (or time of current weather report being used to determine field conditions)

- Types of Approaches in Use

- Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.

### **6.6.2 Airport Layout / Runway Configuration**

KTVC has four (4) designated runways on two (2) landing surfaces. Here is a quick description of each surface:

10/28 – 6501x150' primary runway, used for all major air carrier operations  
18/36 - 5379x150' secondary runway, used for mainly general aviation operations.

### **6.6.3 Active Runway Selection**

When winds at KTVC are calm, you should use runway 28 as a designated calm wind runway unless a pilot requests a different runway.

### **6.6.4 Airspace Layout**

KTVC lies within Class D airspace. The lateral limit is a 5 nm radius, and the vertical limit is 3100' MSL.

When the KTVC ATCT is not staffed, airspace from the surface to 700' AGL becomes Class G (uncontrolled) airspace. Above 700' AGL and within the confines of the airport traffic area, airspace becomes Class E airspace.

### **6.6.5 KTVC Radar Service/Approach Procedures**

ZMP Center provides radar services at KTVC and the surrounding area. The following procedures will be followed for certain radar services at TVC:

Minimum Vectoring Altitudes – In general the MVA in areas west of the KTVC is 3100 MSL and areas west 3500 MSL.

#### Instrument Approach Procedures (IAPs)

Radar Controllers will provide radar services to Maintain IFR separation for traffic arriving on IAPs to KTVC. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at KTVC at all times.

*The following approaches are authorized at KTVC*

ILS RWY 28

GPS RWY 36

VOR OR TACAN OR GPS A

*NDB OR GPS RWY 28*

**6.7 Grayling Army Airfield, Grayling, MI (KGOV)****6.7.1 Communications****6.7.1.1 Frequencies**

The following frequencies are the ONLY frequencies allowed to be used in the KGOV Tower Cab. Your default voice server should be: *voice.downstairsgeek.com*. Your channel must be EXACTLY as listed as below, **NO EXCEPTIONS**.

<b><i>Position Name</i></b>	<b><i>Frequency</i></b>	<b><i>Callsign</i></b>	<b><i>Voice Channel</i></b>
Grayling Ground	121.900	GOV_GND	gov_121.90
Grayling Tower	126.200	GOV_TWR	gov_126.20

Every controller shall utilize a primary frequency in their ATC client program (VRC or ASRC) for communications with aircraft. Every controller is encouraged to use voice as the primary method of communication with aircraft per VATSIM regulations. However, aircraft utilizing non-voice communications (text- or receive-only) will never be denied ATC services. Use text whenever you are able to clarify instructions, or when requested by an aircraft.

**6.7.1.2 ATIS (Automated Terminal Information System)**Voice ATIS

Voice ATIS broadcasts are unavailable for use at KGOV.

Position ATIS

Every KGOV Tower Cab position will maintain a standard, and common ATIS broadcast. The ATIS broadcast will include the following elements at minimum:

- Position

- Current ATIS Letter ID

- Active Runways

- Some other ATIS elements to consider including are:

- Current weather (or time of current weather report being used to determine field conditions)

- Types of Approaches in Use

- Web link to the ZMP ARTCC website for feedback

ATIS will be updated with each significant change in weather (typically with each new METAR) Tower will be in charge of ensuring all other controllers are current with ATIS updates. If Tower is not online, Ground will be responsible for determining ATIS content.



### 6.7.2 Airport Layout / Runway Configuration

KGOV has four (4) designated runways on two (2) landing surfaces. Here is a quick description of each surface:

5/23 – 5000x150' primary runway, used for all operations. Closed Winter months (no snow removal)

14/32 - 5000'x150' secondary runway, used for all operations.

Note: Runway 5/23 and taxiways A, D, and E closed winter months.

### 6.7.3 Active Runway Selection

When winds at KGOV are calm, you should use runway 14 as a designated calm wind runway unless a pilot requests a different runway.

### 8.7.4 Airspace Layout

KGOV lies within Class E airspace. GOV TWR controls only all landing surfaces at KGOV, there is no Class D airspace around KGOV. Airspace from the surface to 700' AGL is Class G (uncontrolled) airspace. Above 700' AGL and within the confines of the airport traffic area, airspace is Class E airspace.

### 6.7.5 KGOV Radar Service/Approach Procedures

ZMP Center provides radar services at KGOV and the surrounding area. The following procedures will be followed for certain radar services at TVC:

Minimum Vectoring Altitudes – In general the MVA in the vicinity of KGOV is 3100' MSL.

#### Instrument Approach Procedures (IAPs)

Radar Controllers will provide radar services to Maintain IFR separation for traffic arriving on IAPs to KGOV. Radar vectors will be utilized to aid pilots requesting IAPs for arrival at KGOV at all times.

*The following approaches are authorized at KGOV*

GPS RWY 14

VOR RWY 14

NDB RWY 14

**END OF SECTION**

## SECTION 7

### ARTCC (Center) Standard Operating Procedures

#### 7.1 Purpose

The Minneapolis (ZMP) Center SOP defines a uniform set of procedures for all controllers to follow while working positions at Minneapolis Center (CTR), including working all of ZMP's CTR airspace solo, or working individual CTR sectors.

#### 7.2 Pre-Requisites and Position Restrictions

Controllers possessing the rating of C1 (Controller) and who have completed the ZMP Center LCTP will be allowed to work CTR positions covered in this SOP. It is assumed that controllers working Center positions will have completed LCTPs for KMSP and M98, as well as most, if not all, other LCTPs. Center controllers not having completed all other LCTPs *may* be restricted to working only specific airspace sectors that encompass LCTPs they are certified in.

#### 7.3 Airspace

Minneapolis Center's airspace is divided up into twelve different sectors of airspace. Six sectors serve as primarily "High" sectors which provide services to aircraft at or above FL240, and six serve as "Low" sectors which provide services to traffic below FL230. Typically center airspace will only be worked as divided sectors when (a) there is more than one controller desiring to work a CTR position, or (b) when mandated by traffic levels. See section 9.3.3 below for more information on sector designations and frequencies.

##### 7.3.1 Airspace Responsibility

In general, CTR will be responsible for, and have control over, all *controlled* airspace within the confines of ZMP ARTCC boundaries. This includes airspace classes A, B, C, D, and E, except when facilities having active Class B, C, or D airspace designations are staffed and operational, in which case CTR delegates control to those controlled facilities per superseding SOP or letter of agreement with the particular facility.

### 7.3.2 Airspace Delegation Standards

The following procedures and standards will apply to the Class B, C, and D facilities listed below when they are active and staffed:

#### M98 TRACON

Center will delegate airspace control over the following airspace to the M98 TRACON positions (MSP\_APP, MSP\_DEP, or any derivation thereof):

- That airspace which is indicated on Center and TRACON radar video maps as the “M98 TRACON Sector”. Generally, this airspace is located within a 40-50 nm radius surrounding KMSP, and exists from the surface, or the upper limit of a defined Class G airspace sector, up to and including 17,000 MSL.

#### KMSP Tower (no M98 TRACON Staffing)

Center will delegate airspace control over the following airspace to the KMSP Tower Cab positions (MSP\_TWR, MSP\_GND, or any derivation thereof):

- The airspace defined as the KMSP Class D airspace, located within a 5 nm radius of KMSP, from the surface up to and including 3000 MSL.

#### KMSP Satellite Airports (KSTP, KMIC, KFCM, KANE, with no M98 TRACON Staffing)

Center will delegate airspace control over the following airspace to the KMSP Satellite Tower Cab positions:

- The airspace defined as the each airport’s Class D airspace. Class D airspace is generally located within a 2.5 nm radius of the airport center, from the surface up to and including 2500 feet AGL. Non-standard airspace configurations may exist, please reference other facility SOPs and/or aeronautical charts to confirm the airspace configuration.

#### ZMP ARTCC Class C TRACON Facilities

Center will delegate airspace control over the designated Class C airspace to the appropriate Class C TRACON facility, including the outer area (up to 20 nm from the primary airport center), or the sector boundary as depicted on the radar video map, whichever is larger. Vertical limits of airspace delegation are prescribed in each facility SOP, or are otherwise mutually agreed to by the CTR and TRACON.

All Other ZMP ARTCC Tower Facilities (Class D without TRACON)

Center will delegate airspace control over the following airspace to the Tower Cab positions:

- The airspace defined as the each airport's Class D airspace. Class D airspace is generally located within a 2.5 nm radius of the airport center, from the surface up to and including 2500 feet AGL. Non-standard airspace configurations may exist, please reference other facility SOPs and/or aeronautical charts to confirm the airspace configuration.

All Other ZMP ARTCC TRACON Facilities (Class D with TRACON)

Center will delegate airspace control over the following airspace to the TRACON positions:

- The airspace defined as the each airport's Class D airspace, plus any additional airspace defined in the radar video map as a TRACON sector. If a TRACON sector is not depicted on the video map, the CTR controller shall coordinate with the appropriate TRACON controller, and define airspace delegation per mutual agreement. As a general rule, Class D airports with TRACON services shall be delegated no less airspace than a 20 nm radius from the center of the Class D, from the surface up to and including 12000 MSL. More specific vertical delegation may be prescribed in each individual facility SOP.

**7.3.3 Sector Designations and Communication Frequencies**

<b>Position</b>	<b>Sector Location</b>	<b>Frequency</b>	<b>Voice Channel</b>	<b>Notes</b>
<b>MSP_11_CTR</b>	<b>Alexandria</b>	<b>133.400</b>	<b>zmp_133.40</b>	<b>Primary Combined</b>
MSP_12_CTR	White Cloud	126.370	zmp_126.37	Wolverine High
MSP_13_CTR	Iron Mountain	133.450	zmp_133.45	Badger High
MSP_17_CTR	Mason City	134.250	zmp_134.25	Sioux Emp. High
MSP_20_CTR	Pierre	125.100	zmp_125.10	Dakota High
<b>MSP_30_CTR</b>	<b>Des Moines</b>	<b>135.770</b>	<b>zmp_135.77</b>	<b>Secondary Combined</b>
MSP_39_CTR	Hastings	135.100	zmp_135.10	For LNK/OVR Events
MSP_2_CTR	Traverse City	132.900	zmp_132.90	Wolverine Low
MSP_4_CTR	Rhineland	133.650	zmp_133.65	Badger Low
<b>MSP_5_CTR</b>	<b>Eau Claire</b>	<b>125.300</b>	<b>zmp_125.30</b>	<b>Primary Low/EAU STAR</b>
MSP_7_CTR	Rochester	132.350	zmp_132.35	KASPR/TRGET STAR
MSP_9_CTR	Redwood Falls	127.100	zmp_127.10	SKETR STAR Sector
<b>MSP_10_CTR</b>	<b>Princeton</b>	<b>121.050</b>	<b>zmp_121.05</b>	<b>GEP STAR</b>
MSP_24_CTR	Jamestown	124.200	zmp_124.20	Dakota East Low
MSP_25_CTR	Bemidji	134.750	zmp_134.75	Gopher North Low
MSP_27_CTR	Omaha	119.600	zmp_119.60	Sioux Empire East Low
MSP_33_CTR	Watertown	128.500	zmp_128.50	Dakota West Low
MSP_37_CTR	O'Neill	128.000	zmp_128.00	Sioux Empire West Low

The above positions table indicates the sectors of ZMP Center airspace.

- As a general rule, the very first position to be staffed will be MSP\_11\_CTR, which is the primary center combined position. If only one controller is working center, they shall use this position to provide services to all of ZMP ARTCC traffic (unless otherwise delegated).
- The secondary combined position is MSP\_30\_CTR, which will be staffed with the second CTR controller available. ZMP ARTCC airspace is split basically north/south between Sectors 11 and 30.
- The next center position to be staffed will be MSP\_5\_CTR, which will serve as the primary low sector for all of ZMP center airspace. Sector 5 (when no other low sectors are staffed) will have control over all aircraft FL230 and below in ZMP ARTCC.

- The next center positions staffed (after Sectors 11, 30, and 6 are staffed) will be at the discretion of the ATM, his designee, or an event CIC. Obviously, the purpose of many sectors is not to have many sectors staffed, but to provide options in any event or traffic focus possible.

Here are some contingency plans for additional Center staffing for events at different airports, for four Center controllers and beyond: The numbers in parantheses are the sectors covered by each conglomerate sector.

Four Centers	11 (North ALL – 11/12/13/20/24) 30 (South High – 17/30/39) 10 (North Low – 2/4/6/10/25/33) 5 (South Low – 7/9/27/37)
Five	11 (North ALL – 11/12/13/20/24) 30 (South High – 17/30/39) 5 (East Low – 2/4/6) 7 (South Low – 7/27/37) 10 (West Low – 9/10/24/25/33)
Six	11 (Northwest ALL – 11/20/24) 12 (Northeast High – 12/13) 30 (South High – 30/39/17) 6 (East Low – 2/4/6) 7 (South Low – 7/27/37) 10 (West Low – 9/10/24/25/33)
Seven	11 (Northwest ALL – 11/20/24) 12 (Northeast High – 12/13) 30 (South High – 17/30/39) 6 (EAU8 Low – 2/4/6) 7 (KASPR3 Low – 7/27/37) 9 (SKETR3 Low – 9/33) 10 (GEP5 Low – 10/24/25)

### **7.3.3.1 High/Low Sector Coordination**

As a general rule, when splitting between high and low center sectors, low sectors shall have control of all airspace FL230 and below. High sectors will have control of all airspace above FL240.

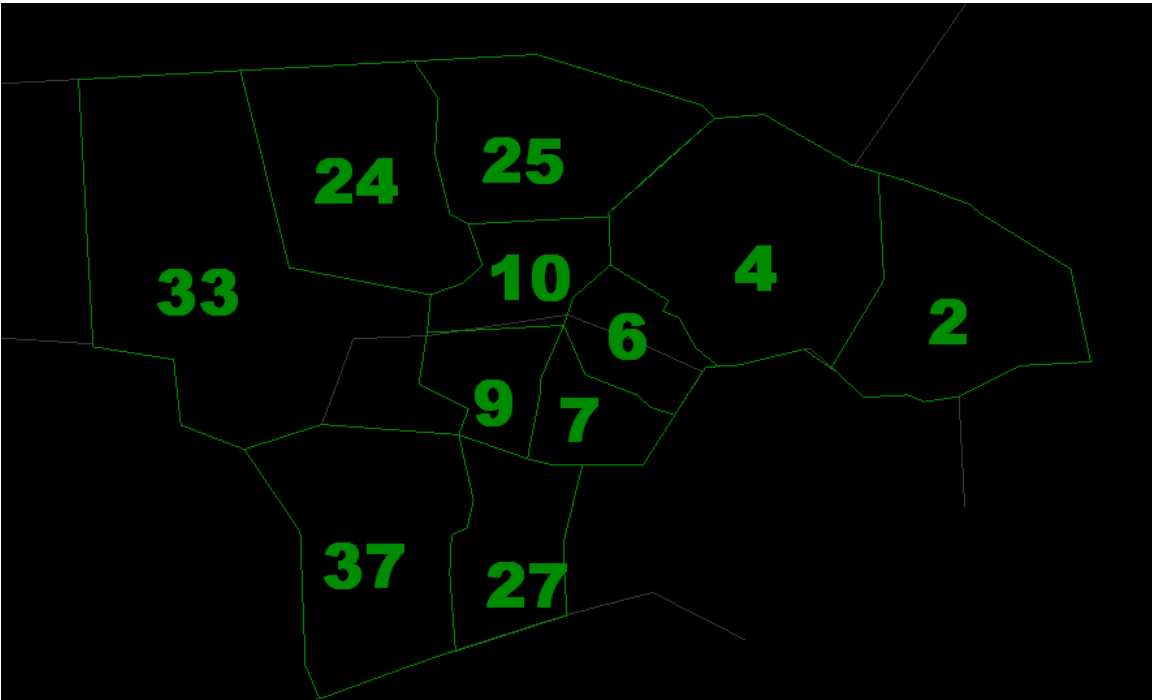
For KMSP arrival traffic, the HIGH sectors will descend aircraft to FL240 to ensure proper descent to meet STAR crossing restrictions. Pilot's discretion descents may be used. Thence, the LOW sectors will ensure that aircraft are descended to the appropriate crossing restriction altitudes indicated on STARs or as coordinated with MSP\_APP.

**7.3.3.2 Sector Diagrams**

**High Splits**



**Low Splits**





## 7.4 Intra-Center Operations and Coordination

ZMP borders seven (7) different ARTCCs and/or FIRs: Chicago (ZAU), Cleveland (ZOB), Salt Lake City (ZLC), Denver (ZDV), Kansas City (ZKC), Winnipeg (CZWG), and Toronto (CZYZ). Coordination of traffic arriving or departing ZMP, or of traffic routed to overfly ZMP shall be conducted per Letters of Agreement (LOAs) between ZMP and these other facilities.

On-line coordination will be conducted either via “landline” calls (intercom or override), or via text/chat messaging. Most coordination shall utilize the “Appreq” method of communication:

### Example of text-based appreq:

MSP\_CTR: Appreq UAL434 direct BDF, currently 30 west of DSM sq 3713

CHI\_CTR: Cross bndy at FL290, Approved, AZ

MSP\_CTR: bndy at 290, thanx, KP

### Example of voice-based intercom appreq:

*“Chicago 64, Minneapolis 11, appreq for UAL434 direct Bradford, he’s currently 20 west of Des Moines squawking 3713.*

*“Minneapolis 11, Chicago 64, cross him at the boundary flight level 290, then approved, AZ”*

*“Understand cross the boundary at flight level 290, thanks, KP”*

## 7.5 Traffic Handling – Enroute

### 7.5.1 Traffic Identification

All traffic shall be confirmed to be in positive radar contact. If traffic is handed off from another facility, the traffic shall be recognized as already confirmed radar contact. If traffic is being picked up “in the blind”, the controller shall verify radar contact of the traffic with appropriate radar position identification procedures. Use the following examples as a guide of appropriate procedure:

#### Aircraft is handed off from another facility:

*“Minneapolis Center, United 437 is with you at flight level 350.”*

[Controller verifies that he has “tracked” the aircraft target from handoff, verifies the stated altitude, and replies...]

*“United 437, Minneapolis center, good evening!”*

Aircraft checks in from uncontrolled airspace:

*“Minneapolis Center, American 1212 is with you 30 east of Des Moines at flight level 320.”*

[Controller shall locate the aircraft target, start radar track, verify position and altitude, and verify that an appropriate transponder code is being transmitted by the aircraft. If a new transponder code is required, the aircraft cannot be confirmed in radar contact until an appropriate assigned code is being squawked.]

*“American 1212, squawk 6722”  
“6722, American 1212”*

[When the position, altitude, and transponder code all indicate a proper radar identification, the controller shall state...]

*“American 1212, radar contact 25 east of Des Moines at flight level 320, thanks for checking in.”*

### **7.5.2 Routing**

The center controller shall generally observe all flight plan routings to ensure compliance with ATC standards, including proper routing, altitude, and traffic separation. “Proceed direct-to” routings may only be granted if no apparent traffic conflict exists at point-in-time, or downline on the route.

Re-routing requests from neighboring facilities shall always be honored. Re-routing requests from aircraft shall be evaluated for ATC standards compliance, as well as approved with downline facilities the re-route will affect.

Route changes will always involve the issuance of a new clearance to the aircraft:

*“Citrus 1756, you are re-cleared to Atlanta via present position direct to Northbrook, direct to Kokomo, and the rest of route unchanged”*

### **7.5.3 Separation**

All aircraft will be sequenced to have no less than 10 nm of in-trail spacing. All altitude restrictions will apply in RSVM and non-RSVM airspace.

### 7.5.6 Enroute Information Updates

All aircraft that have a cruising altitude below Class A airspace (17500 MSL and below) shall be given local altimeter setting updates no less than every 100 nm.

*“Citation 900BB, Alexandria altimeter 29.77”*

To add realism, all aircraft can be notified of SIGMETs, Convective SIGMETs, and Center Weather Advisories issued for ZMP airspace. This information can be obtained on a real-time basis from <http://adds.aviationweather.noaa.gov/>.

*“Attention all aircraft, hazardous weather advisory, convective SIGMET 11 Central, valid until 0455 zulu for Minnesota. From 40NE Grand Forks to 40WSW International Falls to 40E of Fargo to 40NE Grand Forks, an area of thunderstorms moving from 220 at 20 knots, tops to flight level 360.”*

### 7.5.7 Enroute Holding

Holding clearances can be issued to traffic enroute in order to maintain proper sequencing and spacing between in-trail traffic. Holding clearances contain the following basic elements:

Holding Fix  
Holding Direction (standard/non-standard, or as published)  
Leg Length  
Altitude  
Expect Further Clearance Time

#### Holding Fixes

A holding fix may be any defined point in airspace. Intersections, NAVAIDs, NAVAID courses, DME fixes, or pre-defined waypoints can all be utilized. Many common holding fixes will have a “published” hold depicted on an Enroute navigation chart. The most common holding fixes are located on STARs.

#### Holding Direction

Standard holding direction is to make right turns in the hold. (Non-standard is to the left). Published holding patterns will depict the direction of turn. *If a holding direction is not specified in the clearance, standard direction will be assumed.*

#### Leg Length

The length of the inbound and outbound legs of a standard hold is timed as one minute between turns. A more convenient methodology is to offer the aircraft “pilot’s discretion”

or a specified leg length in miles (if the aircraft is DME equipped). *If leg length is not specified in the clearance, standard length (one minute legs) will be assumed.*

### Altitude

Altitude assignments in a holding pattern must conform to proper separation standards. A constant altitude will be maintained, regardless of flight direction in the hold.

### Expect Further Clearance Time

Each aircraft assigned a holding clearance must receive an "Expect Further Clearance" (EFC) time. This time will be issued in UTC clock time, and will represent a reasonable point in time when the aircraft can expect either release from the hold, or a renewed EFC.

Examples:

*"King Air 2390D, you are cleared to the Traverse City VOR to hold east on the 090 degree radial, maintain 5000, expect further clearance at 0230Z"*

*"Northwest 757, you are cleared to the HERMI intersection to hold as published, 10 mile legs, maintain 16000, expect further clearance at 1815Z"*

*"Bellanca 76543, you are cleared to hold north of the Worthington VOR, 360 degree radial, 20 mile fix, left turns, leg length pilots discretion. Descend and maintain 6000. Expect further clearance at 2100Z."*

### Release from Hold

When the aircraft can leave the hold in proper sequence, the clearance must be given to exit the hold (with certain modifications to the exit if needed) and to proceed on a portion of the flight plan route, or via radar vector.

Examples:

*"King Air 2390D, maintain your outbound leg, you are cleared from the hold. Expect vectors to the ILS28 at Cherry Capitol, descend and maintain 3500."*

*"Northwest 757, crossing HERMI, you are cleared to Minneapolis via the Eau Claire 8 arrival, cross TWINZ at 11000."*

*"Bellanca 76543, cleared from the hold, turn left and proceed direct to the Worthington VOR, maintain 3500 until established on a published segment of the approach, cleared for the VOR 35 at Worthington"*

### 7.5.8 Enroute Service Termination

Should an aircraft exit ZMP airspace, some form of service termination must be granted to the aircraft:

#### Aircraft Leaves Airspace for a Staffed/Controlled ARTCC Sector (Handoff)

No later than 5 nm from the airspace border, a handoff shall be initiated with the next sector to handle the traffic. Upon acceptance of the handoff, the aircraft will be cleared to that sector's frequency:

*"Northwest 1920, contact Cleveland Center now on 127.7, thanks for flying Minneapolis, seeya!"*

#### Aircraft Leaves Airspace for an Uncontrolled/Unstaffed ARTCC Sector

No later than the sector boundary, the controller shall release the aircraft from radar services, and cleared from center frequency to monitor traffic advisories:

*"Frontier 800, you are leaving my airspace to the west. Denver Center is not online at this time, radar services are terminated, change to advisory frequency is approved. Thanks for flying Minneapolis, and have a safe landing in Denver!"*

#### Voluntary IFR Cancellation

Should the aircraft choose to cancel IFR at any time, the controller will advise that radar services are terminated and for the aircraft to change to basic VFR squawk code (1200).

*"Cessna 3929F will cancel at this time"*

*"Cessna 3929F, IFR cancellation received, radar services terminated, squawk 1200"*

## 7.6 Traffic Handling – Arrivals

At uncontrolled airports and non-towered Class E airports, CTR will be responsible for issuing clearances for approach and arrival. As the aircraft approaches its destination, no later than 15 minutes of ETA, the center controller shall confirm the receipt of current weather and NOTAMs for the arriving airport with the aircraft:

*“Mesaba 3039, do you have current weather and NOTAMs for Watertown?”*

If the aircraft does not have the weather and NOTAM information, you can provide it to them utilizing current VATSIM weather read from the radar client, and current NOTAMs utilizing the FAA PilotWeb website: <https://pilotweb.nas.faa.gov/distribution/atccsc.html>

Simply decode/read the current METAR observation (like you would for ATIS) and NOTAM-L's. NOTAM-L will be prefaced by the terminal 3-letter identifier. There is no need to read FDC NOTAMS or NOTAM-D's

Example:

(Weather)

KATY 150253Z AUTO 18004KT 10SM CLR 22/18 A2992 RMK AO2 SLP120

(Notams)

ATY 06/002 ATY TOWER 2857 (817 AGL) 17.23 NNE LGTS OTS

ATY 05/015 ATY 17/35 RWY LGTS MIRL VICE HIRL

ATY 04/007 ATY 12/30 CLSD WEF 0704181900

*“Mesaba 3039, Watertown weather at 0253 zulu, wind 180 at 4, 10 miles, clear, temperature 22, dewpoint 18, altimeter 2992. Notices to airmen, a tower 17 miles north-northeast with lights out of service, runway 17/35 lights are medium intensity instead of high intensity, and runway 12/30 is closed. Advise what approach you would like.”*

When the aircraft advises which approach they request, a descent clearance may be issued. The descent clearance must take into account traffic conflicts. Unless prescribed by another facility or facility group SOP, the minimum safe altitude (MSA) as published on the instrument approach procedures for the airport, the minimum enroute altitude for that segment of the route (MEA), or the initial approach altitude for the approach requested, whichever is *higher*, may be used as an initial descent altitude for the arriving airport.

### Coordination with Terminal Traffic

Arrival traffic will typically have priority over departure traffic at the arrival airport. If it can be determined that a traffic conflict can be avoided, an IFR release for a departing aircraft can be granted prior to the issuance of an approach clearance to an arriving aircraft.

If the arriving aircraft is going to be following another IFR arrival into the same airport, approach clearance cannot be granted until the preceding aircraft has either cancelled IFR or reported arrival. Proper pre-planning for sequencing and proper traffic separation must be utilized.

### Visual Approaches

If the aircraft requests a visual approach, vectors can be given to place the aircraft into a position where visual identification of the airport can reasonably be made. Otherwise, the aircraft can be cleared direct to the airport, if not already cleared to do so. When the aircraft is 10 nm from the airport, the controller shall give a location and distance to the airport to assist in airport identification.

Example:

*“Mesaba 3039, the Watertown Airport is 10 O’clock and 10 miles, report it in sight for the visual”*

Once the aircraft declares “field in sight”, the aircraft can be cleared for the visual approach.

\*NOTE\* in order to comply with the basic “one-in-one-out” rule of uncontrolled airport traffic coordination, a visual approach clearance cannot be granted based upon having a preceding landing aircraft in sight.

### Instrument Approaches

If the aircraft requests an instrument approach, the center controller shall offer vectors to the final approach course *only* if the final approach course is depicted on the radar video map (turn on “HIGH BNDYS” on VRC). If the final approach course is not available on radar, the controller shall vector to, or clear via direct to, an initial approach fix. Once the aircraft is observed to be navigating directly to the initial approach fix, approach clearance can be issued. The initial approach altitude maybe assigned along with the approach clearance.

Example:

*“Mesaba 3039, proceed direct to the Watertown VOR, maintain 4000 until on a published segment of the approach, cleared for the VOR 17 Approach to the Watertown Airport on your own navigation”*

### Termination of Radar Services on Arrival

Once an aircraft is cleared for an approach under IFR to an arriving airport, the controller can clear the aircraft from center communication frequency to monitor traffic advisories at the destination. If this clearance from center frequency is granted, the controller must advise the aircraft to either cancel IFR or advise arrival time with an ATC facility.

*“Mesaba 3039, change to advisory frequency approved, report IFR cancellation or your arrival time back with me on 133.40”*

Should the aircraft choose to cancel IFR at any time, the controller will advise that radar services are terminated and for the aircraft to change to basic VFR squawk code (1200).

*“Cessna 3929F will cancel at this time”*

*“Cessna 3929F, IFR cancellation received, radar services terminated, squawk 1200”*

## **7.7 Traffic Handling – Departures**

IFR Departures from uncontrolled airports shall be given IFR clearances either before departure or within 50 nm of the departure airport if airborne. If the clearance is given prior to departure, a clearance void time must accompany the clearance. Alternatively, the clearance can be given to aircraft on the ground with a “hold for release” restriction. These methods are described more in detail below:

### Clearance for Departing Aircraft with IFR Release

This clearance not only grants the entire route clearance, but also releases the aircraft for departure into controlled airspace within a specified clearance time limit.

*“Seminole 2395A is cleared from the Cloquet airport to the Bemidji airport as filed, climb and maintain 4000, squawk 3618, clearance is void if not off the ground by 2115Z.”*

After the aircraft correctly reads back the clearance, the controller will advise them to contact center when airborne.

### Clearance for Departing Aircraft with Hold for Release

This clearance should be used to issue the route clearance and hold the aircraft from departing until the local controlled airspace can be cleared. (i.e this is useful when another aircraft is on arrival).

*“Iron Air 35, this will be a hold for release clearance, you are cleared from Houghton to Ironwood as filed, climb and maintain 7000, squawk 4245, hold for release”*



When the airspace and traffic conflicts are clear for the departure, the controller will call, *“Iron Air 35, you are released for departure, report airborne.”*

#### Clearance for Traffic Already Departed (aka “Pop Up IFR”)

Should an aircraft depart prior to receiving an IFR clearance, they are to operate under VFR until receiving their clearance. As a general rule, this clearance should be requested or issued within 50 nm of the departure airport. If clearance cannot be granted, the flight must continue under VFR until an IFR clearance is granted. With the aircraft already airborne, the clearance is combined with proper radar identification procedures. A typical exchange example follows:

*“Minneapolis Center, this is Baron 808FT, we just departed Mankato, looking for IFR to Red Wing.”*

*“Baron 808FT, Minneapolis Center, squawk 2402 and ident”*

*“Squawking 2402 and identifying, Baron 808FT”*

*“Baron 808FT, radar contact, 10 northeast of Mankato, say altitude”*

*“5500 feet, Baron 8FT”*

*“Baron 8FT, altitude checks, you are cleared to Red Wing via direct, climb and maintain 7000, Mankato altimeter 30.03”*

## 7.8 Center-Provided Tower Cab Services (KMSP Only)

Due to higher traffic volume, ZMP Center controllers are authorized to provide tower cab ATC services at KMSP when MSP\_TWR is not staffed. This includes providing the same services as Clearance Delivery, Ground, and Tower from a single position as Minneapolis Center. In addition, ZMP Center controllers are encouraged to provide Delivery, Ground, and Tower services when possible to all towered airfields, traffic levels and real world tower staffing permitting.

## 7.10 VFR Flight Following

VFR flight following services will be provided on a first-come, first-served basis, traffic permitting. Aircraft requesting this service will be issued a VFR-based squawk code (12xx), radar identified, and tracked. All VFR flight followed aircraft shall be observed to maintain VFR at all times. As such, the controller will ensure that VFR-appropriate altitudes are maintained by the aircraft at all times. The controller will be responsible to provide traffic separation from IFR traffic and participating VFR aircraft. Clearances/vectors to IFR approaches *will not* be provided to VFR flight following traffic.

Here is an example of a typical VFR flight following exchange:

*“Minneapolis Center, Cherokee 4909G is 5 south of Airlake, requesting VFR flight following to Eau Claire at 5500.”*

*“Cherokee 4909G, squawk 1203 and ident”*

*“1203 and ident, Cherokee 4909G”*

*“Cherokee 4909G, radar contact, position and altitude checks, maintain VFR at all times, Minneapolis altimeter 29.90”*

## 7.10 ZMP ARTCC Traffic Management

Center controllers have primary responsibility for the management of traffic flow. Therefore, oversight of flight plans, and general flow control coordination will also be the duty of every Center controller. This oversight does not fall to any lower position than center (i.e. this policy only applies when center controllers are staffed online).

### 7.10.1 Flight Plan Monitoring

Center controllers shall, workload permitting, look at every IFR flight plan departing within MSP airspace, with priority on high density routes (e.g. MSP - ORD).

The controller shall ensure that the flight plan meets the requirements of all current Letters of Agreement (LOAs) with neighboring ARTCCs, whether that ARTCC is online or not.

If the flight plan does not meet the standards of an LOA (or SOP), the center controller shall modify that flight plan to bring it into standard.

If the final altitude is incorrect, it can be changed simply by deleting the incorrect altitude and inserting a correct altitude (FL290 vs. FL330 into ORD, for example).

If the route of flight is incorrect, the center controller shall use his good judgment in determining if the route of flight needs to be changed and to what extent. For example, if the following route of flight is filed: MSP EAU ORD, the center controller shall ensure that the route is changed to meet the standards of the current LOA with Chicago.

The flight strip should read:

+MSP RST3 RST JVL JVL4 ORD+ MSP EAU ORD

The preferred route should be put inside of a set of plus symbols + + with the filed route next to or below the preferred route. If the preferred route is not applicable for the entire aircraft route of flight, the preferred part shall be listed between the plus symbols.

The above requirements do not preclude the controller performing the duties of clearance delivery from making the appropriate changes to the flight plans. If a pilot is unable to accept the route of flight, clearance delivery may deliver the filed route. Any delays to the requested route shall be relayed to the pilot.

### **7.10.2 Flow Control (Traffic Management Unit Functionality)**

Center controllers shall have the authority to issue Expect Departure Clearance Times (EDCTs). These times will be entered into the appropriate block of a flight strip for a flight assigned an EDCT. In accordance with standard, EDCTs will be verified to give a realistic 10-minute window for departure.

During periods of heavy traffic inbound to KMSP, center controllers will issue EDCTs for all aircraft originating from within ZMP for a destination of KMSP which have proposed flight times of less than one hour.

During period of heavy traffic outbound from KMSP, aircraft will be segregated by destination and route commonality. Then the following rules shall apply:

#### KMSP Departure Flow Rule 1:

If more than 10 aircraft propose to depart KMSP for the same destination within 30 minutes of each other, Center shall issue EDCTs to the aircraft on a first-come-first served basis, with EDCT timing adjusted to provide no less than 10 mile in-trail spacing between the departures.

#### KMSP Departure Flow Rule 2:

If more than 10 aircraft propose to depart KMSP within 30 minutes of each other via the same departure routing, Center shall issue EDCTs to the aircraft on a first-come-first served basis, with EDCT timing adjusted to provide no less than 10 mile in-trail spacing between the departures.

During major high-traffic events, and per VATUSA guidelines, a Traffic Management Unit controller position may be utilized to operate these procedures. The controller shall be C1 rated (or higher) and shall use the callsign ZMP\_TMU.

**7.11 Transponder Code Reference** [VATUSA Order as of June 2007]

VATUSA has adopted a beacon code allocation plan. ZMP has further narrowed the allocations to best co-exist with common codes originating from adjacent ARTCCs. Listed below are the PRIMARY allocations of transponder codes to be used at ZMP facilities:

**“Internal”**

For flights originating and terminating within ZMP use 4201-4277, 4501-4577, and 4601-4677.

*Example: MSP-DLH*

**“External”**

For flights originating in ZMP but terminating out of ZMP use 2401-2477, 3601-3677, and 3001-3077

*Example: MSP-ORD*

**“Overflight”**

For over-flights, use 6301-6377 and 6701-6777

*Example: ORD-SEA*

For VFR flights, use locally assigned VFR codes found in local facility orders or appropriate Internal/External codes based on destination for aircraft requesting flight following.

Should the transponder code variety reach a limit (i.e. no more codes from the primary allocations listed above are usable), the following code sequences can be used on a special case basis:

INTERNAL	42XX, 45XX, 46XX, 52XX
EXTERNAL	24XX, 36XX
OVERFLIGHT	63XX, 70XX, 3312-3332, 1501-1532

**\*NOTE\*** Radar client software will automatically assign a code based on controller position and POF file settings related to that position. Controllers shall manually enter codes dependant on this schedule (above) if VRC or ASRC does not code the right prefix numbers.

Controllers are encouraged to use a code worksheet to organize beacon assignments such as the sample listed on the next page:

ZMP LOCALS	
WESTBOUNDS	EASTBOUNDS
<u>GROUP 0</u>	
4200	4201
4202	4203
4204	4205
4206	4207
<u>GROUP 1</u>	
4210	4211
4212	4213
4214	4215
4216	4217
<u>GROUP 2</u>	
4220	4221
4222	4223
4224	4225
4226	4227
<u>GROUP 3</u>	
4230	4231
4232	4233
4234	4235
4236	4237
<u>GROUP 4</u>	
4240	4241
4242	4243
4244	4245
4246	4247
<u>GROUP 5</u>	
4250	4251
4252	4253
4254	4255
4256	4257
<u>GROUP 6</u>	
4260	4261
4262	4263
4264	4265
4266	4267
<u>GROUP 7</u>	
4270	4271
4272	4273
4274	4275
4276	4277

ZMP OUTBOUNDS	
WESTBOUNDS	EASTBOUNDS
<u>GROUP 0</u>	
3600	3601
3602	3603
3604	3605
3606	3607
<u>GROUP 1</u>	
3610	3611
3612	3613
3614	3615
3616	3617
<u>GROUP 2</u>	
3620	3621
3622	3623
3624	3625
3626	3627
<u>GROUP 3</u>	
3630	3631
3632	3633
3634	3635
3636	3637
<u>GROUP 4</u>	
3640	3641
3636	3643
3644	3645
3646	3647
<u>GROUP 5</u>	
3650	3651
3652	3653
3654	3655
3656	3657
<u>GROUP 6</u>	
3660	3661
3662	3663
3664	3665
3666	3667
<u>GROUP 7</u>	
3670	3671
3672	3673
3674	3675
3676	3677

ZMP OVERFLIGHTS	
WESTBOUNDS	EASTBOUNDS
<u>GROUP 0</u>	
6700	6701
6702	6703
6704	6705
6706	6707
<u>GROUP 1</u>	
6710	6711
6712	6713
6714	6715
6716	6717
<u>GROUP 2</u>	
6720	6721
6722	6723
6724	6725
6726	6727
<u>GROUP 3</u>	
6730	6731
6732	6733
6734	6735
6736	6737
<u>GROUP 4</u>	
6740	6741
6767	6743
6744	6745
6746	6747
<u>GROUP 5</u>	
6750	6751
6752	6753
6754	6755
6756	6757
<u>GROUP 6</u>	
6760	6761
6762	6763
6764	6765
6766	6767
<u>GROUP 7</u>	
6770	6771
6772	6773
6774	6775
6776	6777

Additional Code Allocations:

LOCALS	45XX
	46XX
	52XX
OUTBOUNDS	24XX
	26XX
OVERFLIGHTS	63XX
	70XX
	3312-3332
	1501-1532

**END OF SECTION**

## **AUTHORIZATIONS**

***/s/***

**Dhruv Kalra  
vZMP ARTCC Air Traffic Manager  
20 October 2011**

***/s/***

**Andrew Wolcott  
vZMP ARTCC Deputy Air Traffic Manager  
20 October 2011**