



OAKLAND ARTCC

ZOA Class D Airports Standard Operating Procedure Version 1.0

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Section 1. General Information

1-1 PURPOSE

This Standard Operating Procedure (SOP) outlines the procedures to be used by controllers working Class D ATCT positions within ZOA ARTCC. By specifying standard hand off points, departure and arrival routes, coordination between adjacent facilities may be greatly reduced.

1-2 ROLES AND RESPONSIBILITIES

The Office of Primary Responsibility (OPR) for this SOP is the ZOA Facility Advisory Board. This SOP shall be maintained, revised, updated or canceled by the ZOA Facility Advisory Board. Any suggestions for modification / amendment to this SOP should be sent to the FAB for review.

1-3 DISTRIBUTION

This SOP is distributed to all members of the Oakland ARTCC on Vatsim.

1-4 Cancellation

All previous procedures are cancelled.

1-5 COORDINATION PROCEDURES

For each Class D airport there are specific coordination procedures that must be followed. This is to ensure that each controller online is up to date with current airport operations.

a. The Tower must:

- i. Advise the controller handling departures, arrivals and en route aircraft of the departure and arrival runway in use. If an IFR departure will use other than the coordinated runway, the Tower must advise the departure sector.
- ii. Advise the departure/approach and en route controller verbally or via message of the: current ATIS code, and when field conditions change to or from basic VFR minima.
- iii. Notify the departure/approach and en route controller of any factor affecting arrivals, departures or airport capacity.
- iv. Advise the departure/approach control if an aircraft will depart on any other runway other than the designated runway in use.

Section 2. KAPC Napa County

2-1 General Information

FACILITY	CALSIGN	RADIO CALLSIGN	FREQUENCY	VOX CHANNEL
Napa Delivery	APC_DEL	Napa Delivery	127.85	APC_DEL
Napa Ground	APC_GND	Napa Ground	121.70	APC_GND
Napa Tower	APC_TWR	Napa Tower	118.70	APC_TWR
Napa ATIS	APC_ATIS		124.05	APC_ATIS

2-2 Flight Data

- a. Runways 18L/R and or 24 are the calm wind runways. If a tailwind component of 10 knots or greater is present, the field shall use the runway most aligned with the wind.
- b. The tower will issue SGD VOR and the next fix or airway in the filed route or the filed published departure procedure.
- c. All departures will be assigned an altitude of 5,000 feet MSL or requested lower altitude.
 - i. Aircraft requesting altitudes above 5,000 feet MSL will be advised to expect further clearance to their requested altitude 10 minutes after departure.
- d. The Tower is authorized to conduct SVFR operations within the Class D airspace at or below 2,500.

2-3 Departures

- a. The Tower will obtain IFR releases from OAK_41_CTR.
- b. The tower will ensure that the released aircraft departs to contact the Center on OAK_41_CTR's frequency (125.85) or as otherwise coordinated.
- c. Issue VFR-ON-TOP Clearances as follows: "Cleared to SGD VORTAC via SGD. Climb to and report reaching VFR-ON-TOP. (Tops reported [altitude]) or (No tops reports). If not on top at 4,000, maintain 4,000 and advise. Maintain VFR-ON-TOP"

2-4 Arrivals

- a. The Center will advise the Tower how the approach will terminate, if other than a full stop landing.
- b. The Tower will advise the Center of the following: "Arrival", "Cancellation" or "Missed Approach".
- c. The Tower may provide visual separation in accordance with FAAO JO 7110.65.
- d. Successive departing aircraft must be established on courses that divert by at least 45 degrees prior to communication transfer to the center.

Section 3. KCCR Buchanan Field

3-1 General Information

FACILITY	CALSIGN	RADIO CALLSIGN	FREQUENCY	VOX CHANNEL
Concord Delivery	CCR_DEL	Concord Delivery	118.75	CCR_DEL
Concord Ground	CCR_GND	Concord Ground	121.90	CCR_GND
Concord ATIS	CCR_TWR	Concord Tower	119.70	CCR_TWR
Concord ATIS	CCR_ATIS		124.70	CCR_ATIS

3-2 Flight Data

- a. If winds at Concord are light and or variable, favoring no particular runway more than another, controller may choose what runways are in use. Calm wind runways suggested are 19L/R and 14L/R. (Note most IFR Approaches Utilize Runway 19R)
- b. Initial climbs for IFR departures from CCR shall be at or below 4,000.
 - i. Pilots should be told expect their filed altitude 5 minutes after departure if requesting higher.
- c. The Tower is authorized to conduct SVFR operations after coordinating with Travis RAPCON at or below 1,500.
 - i. SVFR Operations shall be suspended prior to any arriving IFR aircraft reaching the FAF on the LDA, VOR, or GPS approach.

3-3 Departures

- a. Departure releases must be obtained from SUU_DEP.
- b. The Tower must ensure aircraft depart within 2 minuets after the specified release time unless otherwise coordinated.

3-4 Arrivals

- a. Tower must provide Travis RAPCON with the following: Arrival time, Missed approach time, and IFR cancellation time.
- b. For aircraft requesting VFR practice approaches, Tower must coordinate with Travis RAPCON at the time of request.
- c. Missed approaches reported to the tower shall be instructed to climb to 2,000 on runway heading and transferred to the radar facility.

Section 4. KCIC Chico Municipal

4-1 General Information

FACILITY	CALSIGN	RADIO CALLSIGN	FREQUENCY	VOX CHANNEL
Chico Ground	CIC_GND	Chico Ground	121.90	CIC_GND
Chico Tower	CIC_TWR	Chico Tower	121.00	CIC_TWR
Chico ATIS	CIC_ATIS		119.675	CIC_ATIS

4-2 Flight Data

- a. Runways 31L/R are the calm wind runways. If a tailwind component of 10 knots or greater is present, the field shall use the runway most aligned with the wind.
- b. Initial climbs for IFR departures from CIC filed for altitudes at or above 8000 shall be to 8000 unless otherwise coordinated.
- c. SVFR Operations
 - i. Tower is authorized to conduct SVFR operations within the Class D surface area at or below 2,500 MSL and must advise the Center when starting and terminating SVFR operations.
 - ii. Tower must suspend SVFR operations 10 minutes prior to the coordinated ETA of an IFR aircraft, unless visual separation is applied.

4-3 Departures

- a. Departure releases must be obtained from OAK_41_CTR.

4-4 Arrivals

- a. Missed approaches reported to tower when shall be instructed to climb to 3,000 on runway heading and transferred to the radar facility.
- d. VFR Practice Approaches
 - i. Center must advise the Tower is an aircraft is on a "VFR Practice Approach" when forwarding arrival information and if IFR separation is being provided.
 - ii. Tower must advise the Center when the approach has terminated.

Note- Missed approaches are not authorized for VFR Practice Approaches.

Section 5. KHWD Hayward Executive

5-1 General Information

FACILITY	CALSIGN	RADIO CALLSIGN	FREQUENCY	VOX CHANNEL
Hayward Delivery	HWD_DEL	Hayward Delivery	128.05	HWD_DEL
Hayward Ground	HWD_GND	Hayward Ground	121.40	HWD_GND
Hayward Tower	HWD_TWR	Hayward Tower	118.90	HWD_TWR
Hayward ATIS	HWD_ATIS		126.70	HWD_ATIS

5-2 Flight Data

- a. HWD shall comply with the runway use plan as set by OAK_TWR. When OAK_TWR is in "west flow" HWD shall use runways 28L/R. When OAK_TWR is in "east flow", HWD shall use runways 10R/L.
- b. Departure releases must be obtained in West Ops by Norcal Departure 'Grove' Sector or in East Ops by Norcal Departure 'Richmond' Sector.
- c. Tower must instruct all IFR departures on runways 28L/R to "fly runway heading until reaching 400 feet, then turn left heading 170°, then climb and maintain 2,000, expect "filed altitude" 5 minutes after departure.

5-3 Departures

- a. Tower must apply the following RADAR separation between 2 IFR aircraft; or an IFR and a VFR aircraft when the VFR aircraft will receive flight following and wake turbulence separation applies.
 - i. Separate a Small departing behind a Small by 3 NM constant or increasing.
 - ii. Separate a Large behind a Large by 3.5 NM constant or increasing.
 - iii. Separate a Small behind a Large by 5 NM constant or increasing.
- b. Tower must ensure that IFR aircraft depart within two minutes of the release time.
- c. Tower must separate an IFR arrival/VFR practice approach and an IFR departure utilizing radar/non-radar or visual separation
- d. Instruct all VFR aircraft enroute to San Francisco to remain outside of the San Francisco Class B and Oakland Class C Airspace until advised and to contact NorCal Approach.

5-4 Arrivals

- a. Tower must advise NCT immediately when an approach aircraft lands or cancels IFR.
- b. Missed approaches reported to Tower when radar facilities are manned shall be instructed to
 - i. Runways 28L/R "turn left heading 170°, climb and maintain 2,000"

- ii. Runways 10L/R "turn right heading 170°, climb and maintain 2,000"

5-5 Scratch Pad

- a. The scratch pad for each aircraft meeting the description below shall be set to the following:
 - i. Three-letter destination of airport identifier for both IFR and VFR aircraft landing NCT airspace.
 - ii. Contain "LCL" for VFR aircraft with no specific destination.
 - iii. Scratchpad entries for non-standard flights:
 - 1. "2ER" Bay Tour

Section 6. KLVK Livermore Municipal

6-1 General Information

FACILITY	CALSIGN	RADIO CALLSIGN	FREQUENCY	VOX CHANNEL
Livermore Ground	LVK_GND	Livermore Ground	121.60	LVK_GND
Livermore Tower	LVK_TWR	Livermore Tower	118.10	LVK_TWR
Livermore ATIS	LVK_ATIS		119.65	LVK_ATIS

6-2 Flight Data

- a. Runways 25L/R are the calm wind runways. If a tailwind component of 10 knots or greater is present, the field shall use the runway most aligned with the wind.
- b. Issue the following departure procedure to all IFR departures:
 - i. Runway 25L/R: LIVERMORE departure procedure.
 - ii. Runways 7L/R: LIVERMORE departure procedure.
- c. Initial climbs for IFR departures from LVK filed for altitudes at or above 4,000 shall be to 4,000 unless otherwise coordinated.
 - i. Pilots should be told expect their filed altitude 5 minutes after departure.
- d. SVFR Operations
 - i. Tower is delegated SVFR authority within Class D Surface Area at and below 2,500 feet MSL.
 - ii. Tower must ensure that all SVFR operations are complete prior to an IFR arrival reaching the FAF inbound.

6-3 Departures

- a. Departure releases must be obtained from "Grove" (West Ops) or "Valley" (East Ops).
- b. Unless visual separation is applied, do not release a departure when an IFR arrival or VFR practice approach is inside of REIGA (ILS) or OYAH (RNAV).

6-4 Arrivals

- a. Tower must advise NCT when an approach aircraft lands or cancels IFR.
- b. Hold IFR departures until advised by NCT that missed approach aircraft are clear.
- c. Missed approaches reported to tower when radar facilities are manned shall be instructed to climb to 5,000 on runway heading and transferred to the radar facility.

6-5 Scratch Pad

- a. The scratch pad for each aircraft meeting the description below shall be set to the following:
 - i. Three-letter destination of airport identifier for both IFR and VFR aircraft landing NCT airspace.
 - ii. Contain "LCL" for VFR aircraft with no specific destination.
 - iii. Scratch pad for non-standard flights:
 1. "2ER" Bay Tour
 2. "OPN" Law Enforcement
 3. "PIX" Photo Mission
 4. "SVR" Special VFR

Section 7. KMER Castle

7-1 General Information

FACILITY	CALSIGN	RADIO CALLSIGN	FREQUENCY	VOX CHANNEL
Castle Ground	MER_GND	Castle Ground	133.575	MER_GND
Castle Tower	MER_TWR	Castle Tower	118.175	MER_TWR
Castle ATIS	MER_ATIS		124.475	MER_ATIS

7-2 Flight Data

- a. Runway 31 is the calm wind runway. If a tailwind component of 10 knots or greater is present, the field shall use the runway most aligned with the wind.
- b. Initial climbs for IFR departures from MER filed for altitudes at or above 7,000 shall be to 7,000 unless otherwise coordinated.
 - i. Pilots should be told expect their filed altitude 5 minutes after departure.
- c. Departure releases must be obtained from NCT "Valley".

7-3 Departures

- a. Tower must not release a departure off MER when an IFR arrival or VFR Practice Approach has passed the FAF inbound, unless visual separation is applied.
- b. Tower must ensure that IFR aircraft depart within 2 minutes of their release times.

7-4 Arrivals

- a. Tower must advise NCT when an aircraft cancels IFR.
- b. Missed approaches reported to tower when radar facilities are manned shall be instructed to climb to 2,000 on runway heading and transferred to the radar facility.
- c. SVFR Operations
 - i. When Castle airport is below basic VFR minima, Tower must coordinate SVFR operations with NCT.
 - ii. Tower must instruct all SVFR aircraft to remain at or below 1,500 feet while in the Castle Class D Surface Area.

Section 8. KMHR Sacramento Mather

8-1 General Information

FACILITY	CALSIGN	RADIO CALLSIGN	FREQUENCY	VOX CHANNEL
Mather Ground	MHR_GND	Mather Ground	121.85	MHR_GND
Mather Tower	MHR_TWR	Mather Tower	120.65	MHR_TWR
Mather ATIS	MHR_ATIS		118.325	MHR_ATIS

8-2 Flight Data

- a. Runways 22L/R are the calm wind runway. If a tailwind component of 10 knots or greater is present, the field shall use the runway most aligned with the wind.
- b. Initial climbs for IFR departures from MHR filed for altitudes at or above 4,000 shall be to 4,000 unless otherwise coordinated.
 - i. Pilots should be told to expect their filed altitude 5 minutes after departure.
- c. Departure releases must be obtained from NCT "Expo"
- d. SVFR Operations
 - i. The Tower is authorized to conduct SVFR operations
 - ii. Tower must instruct all SVFR aircraft to remain at or below 2,500 feet while in the Mather Airport Class D Airspace
 - iii. Tower must ensure that all SVFR arrivals are complete prior to an IFR arrival reaching the FAF inbound.

8-3 Departures

- a. Tower must separate successive same runway departures by:
 - i. If departures diverge immediately after takeoff by at least 15 degrees:
 1. One mile, constant or increasing, or
 2. Visual separation
 - ii. If courses will not diverge immediately after takeoff by 15 degrees:
 1. Three miles between aircraft of the same performance characteristics or slower aircraft following faster aircraft.

8-4 Arrivals

- a. Tower must advise NCT when an arriving IFR aircraft executes any procedure other than the

one for which it was cleared.

- b. Tower must sequence VFR aircraft without disrupting NCT's approach sequence.
- c. Missed approaches reported to Tower when radar facilities are manned shall be instructed to:
 - i. Runway 4: Heading 150°, maintain 2,000 feet
 - ii. Runway 22: Heading 090°, maintain 2,000 feet.
- d. VFR Operations
 - i. The Tower must notify NCT of VFR jet departures
 - ii. Workload permitting and prior to aircraft departing, the Tower will obtain a VFR squawk code and departure frequency for aircraft requesting flight following services or practice approaches at MHR.

9-5 Scratch Pad

- a. The scratch pad for each aircraft meeting the description below shall be set to the following:
 - i. Three-letter destination of airport identifier for both IFR and VFR aircraft landing NCT airspace.
 - ii. Contain "LCL" for VFR aircraft with no specific destination.

Section 9. Modesto Harry Sham Field

9-1 General Information

FACILITY	CALSIGN	RADIO CALLSIGN	FREQUENCY	VOX CHANNEL
Modesto Ground	MOD_GND	Modesto Ground	121.70	MOD_GND
Modesto Tower	MOD_TWR	Modesto Tower	125.30	MOD_TWR
Modesto ATIS	MOD_ATIS		127.70	MOD_ATIS

9-2 Flight Data

- a. Runways 28L/R are the calm wind runway. If a tailwind component of 10 knots or greater is present, the field shall use the runway most aligned with the wind.
- b. Initial climbs for IFR departures from MOD filed for altitudes at or above 7,000 shall be to 7,000 unless otherwise coordinated.
 - i. Pilots should be told to expect their filed altitude 5 minutes after departure.
- c. Departure releases must be obtained from NCT "Valley".
- d. VFR Operations
 - i. Workload permitting, Tower will issue a transponder code and departure frequency to all VFR departures requesting radar advisories.
- e. SVFR Operations
 - i. The Tower is authorized to conduct SVFR operations.
 - ii. Tower must instruct all SVFR aircraft to remain at or below 1,500 feet while in the Modesto Class D surface area.
 - iii. Tower must ensure SVFR operations are complete prior to an IFR arrival reaching the FAF inbound.

9-3 Departues

- a. Tower must separate successive same runway departures by:
 - i. If departures diverge immediately after takeoff by at least 15 degrees
 1. One mile constant or increasing; or
 2. Visual separation
 - ii. If courses will not diverge immediately after takeoff by 15 degrees
 1. Three miles constant or increasing for all aircraft no on the same cleared route or transition fix; or
 2. Five miles constant or increasing for all successive departures on the same route or transition fix.

9-4 Arrivals

- a. Tower must coordinate with NCT before approving an IFR or VFR practice approach aircraft stop and go.
- b. Missed approaches reported to tower when radar facilities are manned shall be instructed to:
 - i. Runways 10/28: Heading 160°, maintain 2,000 feet.

9-5 Scratch Pad

- a. The scratch pad for each aircraft meeting the description below shall be set to the following:
 - i. Three-letter destination of airport identifier for both IFR and VFR aircraft landing NCT airspace.
 - ii. Contain "LCL" for VFR aircraft with no specific destination.
 - iii. Scratch pad for non-standard flights:
 1. "2ER" Bay Tour
 2. "OPN" Law Enforcement
 3. "PIX" Photo Mission
 4. "SVR" Special VFR

Section 10. KNUQ Moffet Federal Airfield

10-1 General Information

FACILITY	CALSIGN	RADIO CALLSIGN	FREQUENCY	VOX CHANNEL
Moffet Ground	NUQ_GND	Moffet Ground	121.85	NUQ_GND
Moffet Tower	NUQ_TWR	Moffet Tower	119.55	NUQ_TWR
Moffet ATIS	NUQ_ATIS		124.175	NUQ_ATIS

10-2 Flight Data

- a. NUQ shall comply with the runway use plan as set by SJC_TWR. When SJC_TWR is in "West Flow", NUQ shall use runways 32L/R. When SJC_TWR is in "east flow".
 - i. NUQ shall use runways 14L/R. If local winds make compliance with this instruction unsafe.
 - ii. NUQ_TWR may deviate from this procedure, but must inform all NCT sectors and OAK_CTR positions of this condition.
- b. Initial headings and altitudes for NUQ departures shall be;
 - i. Runway 32:
 1. Right turn heading 090°, maintain 3,000.
 2. If on the OSI Departure Procedures, maintain 4,000.
 - ii. Runway 14:
 1. Runway heading, maintain 3,000
- c. Tower must comply with the following:
 - i. Issue the Departure Procedure, appropriate heading or Tower Enroute Clearance (TEC) route.
 1. TEC routes for KNUQ are located on the vZOA website.
 - ii. Issue radar vectors to the destination when an aircraft is unable to accept the TEC route.
 - iii. Issue the interim altitude or the expected altitude located in the TEC route diagram.
 - iv. Pilots should be told to expect their filed altitude 5 minutes after departure.
- d. Departure releases for aircraft departing runways 32L/R must be obtained from "Toga". Releases for aircraft departing runways 14L/R must be obtained from "Licke".

10-3 Departures

- a. Tower must ensure that aircraft depart within three minutes after obtaining a release.
- b. Tower must also APREQ runway 14L/R departures with SJC_TWR.

- c. Tower must ensure that aircraft turn to the assigned departure heading within 1 NM of the runway.
- d. Apply the following radar separation between two (2) IFR aircraft; or an IFR and a VFR aircraft when the VFR aircraft will receive flight following and wake turbulence separation applies:
 - i. Separate a Small/Large/Heavy departing behind a Small/Large/Heavy by five (5) NM constant or increasing.
 - ii. Separate a Small/Large/Heavy departing behind an A380/A225 by eight (8) NM constant or increasing.
- e. Tower is authorized to separate same direction departures from arrivals by visual separation or two NM if separation will increase to three NM within one minute after takeoff.

10-4 Arrivals

- a. Tower must advise NCT when an airborne aircraft cancels IFR.
- b. Tower must coordinate with NCT as soon as practical if increased spacing on final is required.
- c. Tower applied visual separation is authorized within the Tower Designated Area.
- d. Practice Approaches
 - i. IFR separation for VFR aircraft practicing instrument approaches begins at the point where the approach clearance becomes effective and terminates at the Missed Approach Point (MAP) unless prior authorization to conduct the published missed approach procedure is approved by NCT.
 - ii. Multiple practice approaches to NUQ are not authorized.
- e. Missed approaches reported to tower when radar facilities are manned shall be instructed to:
 - i. Runway 32L/R: Runway heading, maintain 2,000 feet.
 - ii. Runway 14L/R: Runway heading, maintain 3,000 feet.
 - iii. Advise all visual approach go-arounds to remain in the traffic pattern.
 - iv. Advise NCT immediately when an unplanned missed approach/go-around occurs.

10-5 NUQ VFR/SVFR Procedures

- a. VFR Operations
 - i. Tower must sequence VFR aircraft without disrupting NCT's approach sequence.
 - ii. Tower must instruct all VFR departures to remain outside of SJC Class C airspace.
 - iii. Workload permitting, issue a transponder code, departure frequency for all VFR aircraft requesting radar advisories.
 - iv. Tower must enter a flight plan for all aircraft that will exit NCT airspace.
 - v. Initiate a handoff to the approach NCT sector prior to the aircraft exiting the Class D Surface Area.
 - 1. If unable to complete the handoff prior to exiting the Class D Surface Area, Tower must;
 - a. Keep the aircraft data block in handoff status.

- b. Inform the pilot that NCT has their request; instruct the aircraft to remain on the assigned beacon code and to contact NCT on the appropriate frequency.
- vi. For aircraft that depart VFR and intend to pick up an IFR clearance airborne, the Tower must verbally notify the appropriate sector of the aircrafts intentions.
- vii. SVFR Operations
 - 1. The Tower is authorized to conduct SVFR operations.
 - 2. Tower must coordinate with the appropriate NCT sector prior to conducting SVFR operations.
 - 3. Tower must ensure that all SVFR operations are complete prior to an IFR arrival reaching the FAF inbound.

10-6 Scratch Pad

- a. The scratch pad for each aircraft meeting the description below shall be set to the following:
 - i. Three-letter destination of airport identifier for both IFR and VFR aircraft landing NCT airspace.
 - ii. Contain "LCL" for VFR aircraft with no specific destination.
 - iii. Scratch pad for non-standard flights:
 - 1. "2ER" Bay Tour
 - 2. "OPN" Law Enforcement
 - 3. "PIX" Photo Mission
 - 4. "SVR" Special VFR

Section 11. KPAO Palo Alto

11-1 General Information

FACILITY	CALSIGN	RADIO CALLSIGN	FREQUENCY	VOX CHANNEL
Palo Alto Ground	PAO_GND	Palo Alto Ground	125.00	PAO_GND
Palo Alto Tower	PAO_TWR	Palo Alto Tower	118.60	PAO_TWR
Palo Alto ATIS	PAO_ATIS		135.275	PAO_ATIS

11-2 Flight Data

- a. PAO shall comply with the runway use plan as set by SFO ATCT. When SFO ATCT is in “west flow” PAO shall use runway 31. When SFO ATCT is in “east flow”, PAO shall use runways 13.
 - i. If local winds make compliance with this instruction unsafe, PAO ATCT may deviate from this procedure, but must inform all NORCAL TRACON sectors and OAK CTR positions of this condition.
- b. PAO ATCT shall get releases from "Toga" and "Toga" shall handle these departures.
- c. Initial climbs for IFR departures from PAO filed for altitudes at or above 3,000 shall be to 3,000 unless otherwise coordinated.
 - i. Pilots should be told to expect their filed altitude 5 minutes after departure.
- d. Aircraft requesting IFR to VFR-On-Top should be cleared to the San Jose VOR.
- e. To the extent possible, Tower will advertise the GPS runway 31 approach as the primary approach.

11-3 Departures

- a. IFR departures shall be instructed to:
 - i. Runway 31: Turn right heading 060°
 - ii. Runway 13: Turn left heading 060°
 - iii. This turn must be initiated within 1 mile of the airport after departure.
- b. Tower must ensure that aircraft depart within 3 minutes of the released time.
- c. Apply the following RADAR separation between 2 IFR aircraft; or an IFR and a VFR aircraft when the VFR aircraft will receive flight following and wake turbulence separation applies.
 - i. Separate a Small departing behind a Small by 3 NM constant or increasing.
 - ii. Separate a Large departing behind a Large by 3.5 NM constant or increasing.
 - iii. Separate a Small departing behind a Large by 5 NM constant or increasing.

11-4 Arrivals

- a. Tower must advise Licke when an approach aircraft cancels IFR.
- b. Tower may provide visual separation between successive arrivals in the Tower Designated Area.
- c. Missed approaches reported to tower when radar facilities are manned shall be instructed to:
 - i. Visual Approaches: Issue closed traffic to the aircraft
 - ii. IFR Approaches: Advise NCT of missed approach and receive instructions.

11-5 Scratch Pad

- a. The scratch pad for each aircraft meeting the description below shall be set to the following:
 - i. Three-letter destination of airport identifier for both IFR and VFR aircraft landing NCT airspace.
 - ii. Contain "LCL" for VFR aircraft with no specific destination.
 - iii. Scratch pad for non-standard flights:
 - 1. "2ER" Bay Tour

Section 12. KRDD Redding Municipal

12-1 General Information

FACILITY	CALSIGN	RADIO CALLSIGN	FREQUENCY	VOX CHANNEL
Redding Ground	RDD_GND	Redding Ground	121.70	RDD_GND
Redding Tower	RDD_TWR	Redding Tower	119.80	RDD_TWR
Redding ATIS	RDD_ATIS		124.10	RDD_ATIS

12-2 Flight Data

- a. Runway 34 is the calm wind runway. If a tailwind component of 10 knots or greater is present, the field shall use the runway most aligned with the wind.
- b. Initial climbs for IFR departures from RDD filed for altitudes at or above FL230 shall be FL230 unless otherwise coordinated
 - i. Pilots should be told to expect their filed altitude 10 minutes after departure.
- c. Departure releases must be obtained from OAK_41_CTR.
- d. SVFR Operations
 - i. The Tower is authorized to conduct SVFR operations within Class D airspace at or below 2,500 MLS.
 - ii. The Tower must suspend SVFR operations 10 minutes prior to the estimated arrival time of an IFR aircraft, unless visual separation is applied.

12-3 Departures

- a. The Tower must ensure that released aircraft depart within three minutes or the release is cancelled.
- b. Successive departing aircraft must be established on courses that diverge by at least 45 degrees prior to communication transfer.

12-4 Arrivals

- a. The Tower must advise the Center of either "Arrival", "Cancellation", or "Missed Approach".
- b. VFR Practice Approaches
 - i. The Tower must advise the Center when the approach has terminated.
 - ii. **Note**-Misses approaches are not authorized for VFR practice approaches.
- c. Missed approaches reported to tower when radar facilities are manned shall be instructed to fly the published missed approach and be transferred to the radar facility.

Section 13. KRHV Reid-Hillview

13-1 General Information

FACILITY	CALSIGN	RADIO CALLSIGN	FREQUENCY	VOX CHANNEL
Reid-Hillview Ground	RHV_GND	Reid-Hillview Ground	121.65	RHV_GND
Reid-Hillview Tower	RHV_TWR	Reid-Hillview Tower	119.80	RHV_TWR
Reid-Hillview ATIS	RHV_ATIS		125.20	RHV_ATIS

13-2 Flight Data

- a. RHV shall follow the runway ops in effect at SJC. When SJC ATCT is “west flow” RHV shall use runways 31L/R. When SJC ATCT is “east flow”, RHV shall use runways 13L/R.
 - i. If local winds make compliance with this instruction unsafe, RHV ATCT may deviate from this procedure, but must inform NORCAL TRACON sectors and OAK CTR positions of this.
- b. Initial climbs for IFR departures from RHV filed for altitudes at or above 3,000 shall be 3,000 unless otherwise coordinated.
 - i. Pilots should be told to expect their filed altitude 5 minutes after departure.
- c. All IFR departures shall get a departure release from SJC_TWR.

13-3 Departures

- a. Initial headings for IFR departures shall be:
 - i. Runway 13L/R: Runway heading to 400 feet, then turn right heading 290°.
 - ii. Runway 31L/R: Turn left heading 290°.
 1. This turn must be made within one NM of the runway
- b. Tower must ensure that aircraft depart within two minutes after obtaining a release.
- c. Tower must apply five NM radar separation between two IFR aircraft; or an IFR and a VFR aircraft when the VFR aircraft will receive flight following and wake turbulence separation applies.
- d. Tower is authorized to separate same direction departures from arrivals by visual separation or two NM if separation will increase to three NM within one minute after takeoff.

13-4 Arrivals

- a. Tower must advise Licke (SFOW) or Toga (SFOE / SJCE) when an airborne aircraft cancels IFR.
- b. Tower must coordinate with NCT as soon as practical if increased spacing on final is required.
- c. Tower applied visual separation is authorized within the Tower Designated Area.
- d. Tower must instruct aircraft executing a circling approach to circle east during daylight hours.

- e. Missed approaches reported to tower when radar facilities are manned shall be instructed to:
 - i. Issue the published missed approach procedure.
 - ii. Advise all visual approach go-arounds to remain in the east traffic pattern.
 - iii. Advise NCT and SJC_TWR immediately when a missed approach/go around occurs.

13-5 RHV VFR/SVFR Procedures

- a. VFR Procedures
 - i. Tower must sequence aircraft without disrupting NCT's approach sequence.
 - ii. For VFR departures requesting radar advisories (Flight Following), the tower must issue a transponder code and a departure frequency.
 - iii. A handoff to NCT shall be initiated prior to the aircraft exiting the Class D Airspace.
 - 1. If unable to complete the handoff to NCT, keep the aircrafts datablock in handoff status and advise the pilot that NCT has their request, remain on their assigned beacon code and contact NCT on the appropriate frequency.
 - iv. For aircraft departing VFR and requesting to pick up their IFR clearance in the air with NCT, the tower must verbally notify the appropriate sector of the pilots request.
- f. SVFR Operations
 - i. Tower is authorized to conduct SVFR operations.
 - ii. Tower must coordinate with "Toga" prior to conducting SVFR operations.
 - iii. Tower must ensure that all SVFR operations are complete prior to an IFR arrival reaching the FAF inbound.

13-6 Scratch Pad

- a. The scratch pad for each aircraft meeting the description below shall be set to the following:
 - i. Three-letter destination of airport identifier for both IFR and VFR aircraft landing NCT airspace.
 - ii. Contain "LCL" for VFR aircraft with no specific destination.
 - iii. Scratch pad for non-standard flights:
 - 1. "2ER" Bay Tour
 - 2. "PIX" Photo Mission

Section 14. KSAC Sacramento Executive

14-1 General Information

FACILITY	CALSIGN	RADIO CALLSIGN	FREQUENCY	VOX CHANNEL
Executive Ground	SAC_GND	Executive Ground	125.00	SAC_GND
Executive Tower	SAC_TWR	Executive Tower	119.50	SAC_TWR
Executive ATIS	SAC_ATIS		125.50	SAC_ATIS

14-2 Flight Data

- a. When the winds are less than 10 knots, runway 20 shall be used. With wind above 10 knots, use the runways most aligned with the wind.
- b. Initial climbs for IFR departures from SAC filed for altitudes at or above 2,000 shall be to 2,000 unless otherwise coordinated.
 - i. Pilots should be told to expect their filed altitude 5 minutes after departure.
- c. Departure releases must be obtained from NCT "Expo".
- d. SVFR Operations
 - i. Tower is authorized to conduct SVFR operations.
 - ii. Tower must instruct all aircraft to remain at or below 1,500 feet while in the Executive Class D airspace.
 - iii. Tower must ensure that all SVFR arrivals are complete prior to an IFR arrival reaching the FAF inbound.

14-3 Departures

- a. The Tower must separate successive same runway departures by:
 - i. If departures diverge immediately after takeoff by at least 15 degrees:
 1. One mile, constant or increasing
 2. Visual separation
 - ii. If courses will not diverge immediately after takeoff by 15 degrees:
 1. Three miles between aircraft of the same performance characteristics or slower aircraft following faster aircraft, or;
 2. Five miles between aircraft with the same performance characteristics on the same departure procedure, or;
 3. A successive departure may be released without the miles required in paragraph "A", subsections "i" and "ii" provide the preceding departure has vacated the

assigned altitude of the successive departure.

14-4 Arrivals

- a. Tower must advise NCT when an arriving aircraft executes any procedure other than the one for which it was cleared.
- b. Tower must advise NCT prior to allowing pattern extensions beyond the Class D airspace.
- c. Tower must instruct aircraft conducting a missed approach/climb out or circling approach to remain on the inbound approach course until at least 2.3 miles from the airport.
- d. Unplanned missed approaches reported to tower when radar facilities are manned shall be instructed to: "Turn left heading 250, maintain 1,500 feet", and immediately advise NCT.

14-5 Scratch Pad

- a. The scratch pad for each aircraft meeting the description below shall be set to the following:
 - i. Three-letter destination of airport identifier for both IFR and VFR aircraft landing NCT airspace.
 - ii. Contain "LCL" for VFR aircraft with no specific destination.

Section 15. KSCK Stockton Metropolitan

15-1 General Information

FACILITY	CALSIGN	RADIO CALLSIGN	FREQUENCY	VOX CHANNEL
Stockton Ground	SCK_GND	Stockton Ground	121.90	SCK_GND
Stockton Tower	SCK_TWR	Stockton Tower	120.30	SCK_TWR
Stockton ATIS	SCK_ATIS		118.250	SCK_ATIS

15-2 Flight Data

- a. Runways 29L/R are the calm wind runways. If a tailwind component of 10 knots or greater is present, the field shall use the runway most aligned with the wind.
- b. IFR Departure releases must be obtained from NCT "Valley".
- c. The Tower must issue the following initial headings to IFR aircraft and aircraft climbing to VFR-On-Top:
 - i. Runways 29L/R:
 1. 200° to aircraft landing TCY, LVK, C83, Monterey CX, Oakland CX, San Francisco CX, San Jose CX, and all other southbound aircraft.
 2. 290° to aircraft landing in the Napa CX, Sacramento CX, and Travis CX.
 3. 340° to aircraft landing Mather CX and all other northbound aircraft not covered above.
 - ii. Runways 11L/R:
 1. 200° to aircraft landing TCY, LVK, C83, Monterey CX, Napa CX, Oakland CX, San Francisco CX, San Jose CX, Travis CX and all other southbound aircraft.
 2. 050° to all other northbound aircraft.
- d. Initial climbs for IFR departures from SCK filed for altitudes at or above 7,000 shall be to 7,000.
 - i. Pilots should be told to expect their filed altitude 5 minutes after departure.
- e. The Tower must issue the appropriate TEC route and altitude appropriate to departure runway and destination.
 - i. TEC routes are available on the vZOA website.
- f. SVFR Operations
 - i. Tower is authorized to conduct SVFR operations.
 - ii. Tower must instruct all SVFR aircraft to remain at or below 1,500 feet while in the Stockton Class D Surface Area.
 - iii. Tower must ensure that all SVFR operations are complete prior to an IFR arrival reaching the FAF inbound.

15-3 Departures

- a. Tower must ensure that IFR aircraft depart within two minutes of the release time.
- b. Tower must apply the following RADAR separation between 2 IFR aircraft; or an IFR and a VFR aircraft when the VFR aircraft will receive flight following and wake turbulence separation applies.
 - i. Separate a Small departing behind a Small by 3 NM constant or increasing.
 - ii. Separate a Large departing behind a Large by 3.5 NM constant or increasing.
 - iii. Separate a Small departing behind a Large by 5 NM constant or increasing.
 - iv. Separate a Small/Large/Heavy departing behind a Heavy by 5 NM constant or increasing.
 - v. Separate a Small/Large/Heavy behind a A380/A225 by 8NM constant or increasing.

15-4 Arrivals

- a. Tower must coordinate with NCT prior to approving an IFR aircraft executing a circling approach.
- b. The Tower may clear aircraft for a visual approach
- c. Missed approaches reported to tower when radar facilities are manned shall be instructed to:
 - i. Runways 29L/R: Runway heading, maintain 2,000 feet.
 - ii. Runways 11L/R: Runway heading, maintain 3,000 feet.
 - iii. Visual approach: Closed traffic or as assigned above

15-5 Scratch Pad

- a. The scratch pad for each aircraft meeting the description below shall be set to the following:
 - i. Three-letter destination of airport identifier for both IFR and VFR aircraft landing NCT airspace.
 - ii. Contain "LCL" for VFR aircraft with no specific destination.

Section 16. KSNS Salinas Municipal

16-1 General Information

FACILITY	CALSIGN	RADIO CALLSIGN	FREQUENCY	VOX CHANNEL
Salinas Ground	SNS_GND	Salinas Ground	121.70	SNS_GND
Salinas Tower	SNS_TWR	Salinas Tower	119.525	SNS_TWR
Salinas ATIS	SNS_ATIS		124.85	SNS_ATIS

16-2 Flight Data

- a. Runways 31/26 are the calm wind runways. If a tailwind component of 10 knots or greater is present, the field shall use the runway most aligned with the wind.
- b. IFR departure releases must be obtained from NCT "Seca".
- c. All IFR departures shall be issued the SNS departure procedure, unless otherwise coordinated.
- d. Departures that are issued other than the published departure procedure must be instructed to expect NCT assigned altitude five minutes after departure.
- e. The Tower is authorized to conduct SVFR operations.
 - i. The Tower must instruct all SVFR aircraft to remain at or below 2,000 feet while in the Salinas Class D Surface Area.
 - ii. Ensure SVFR operations are complete prior to an IFR arrival reaching the FAF inbound.

16-3 Departures

- a. Tower must ensure that aircraft depart within two minutes of the released time or obtain a new release.
- b. Tower must notify NCT of VFR turboprop and jet departures en-route to MRY.

16-4 Arrivals

- a. Tower must advise NCT when an aircraft cancels IFR or executes an unplanned missed approach.
- b. Missed approaches reported to tower when radar facilities are manned shall be instructed to:
 - i. Issue closed traffic to aircraft executing an unplanned go around from a visual approach.
 - ii. Advise NCT if an unplanned missed approach occurs.

16-5 Stratch Pad

- a. The scratch pad for each aircraft meeting the description below shall be set to the following:
 - i. Three-letter destination of airport identifier for both IFR and VFR aircraft landing NCT airspace.
 - ii. Contain "LCL" for VFR aircraft with no specific destination.
 - iii. Scratch pad for non-standard flights:
 - 1. "2ER" Bay Tour
 - 2. "BSR" Aircraft following coastline southbound
 - 3. "SVR" Special VFR
 - 4. "SVY" Salinas Valley Practice Area

Section 17. KSQL San Carlos Airport

17-1 General Information

FACILITY	CALSIGN	RADIO CALLSIGN	FREQUENCY	VOX CHANNEL
San Carlos Ground	SQL_GND	San Carlos Ground	121.60	SQL_GND
San Carlos Tower	SQL_TWR	San Carlos Tower	119.00	SQL_TWR
San Carlos ATIS	SQL_ATIS		125.90	SQL_ATIS

17-2 Flight Data

- a. Runway 30 is the calm wind runway. If local winds make compliance with this unsafe, the runway most aligned with the wind shall be used.
- b. IFR departure releases must be obtained from NCT "Woodside".
- c. When the reported ceiling is at or above 1,100 feet and the visibility is 3 miles or more, Tower must instruct all Runway 30 IFR departures to fly the Noise Abatement Departure Procedure which is, "Fly runway heading until passing the diamond shaped waterway, then turn right heading 120° and keep your turn within 2 miles of the airport for vector to the assigned fix/route, maintain VFR at or below 1,100 until passing the OAK 165° radial, then climb and maintain 2,100 feet; expect NCT assigned altitude five minutes after departure."
- d. Tower must instruct all runway 12 IFR departures to fly runway heading and climb and maintain 2,100 feet, and to expect NCT assigned altitude five minutes after departure.
- e. When the runway 30 Noise Abatement Departure Procedure is not feasible, Tower must notify NCT and instruct all runway 30 IFR departures to fly runway heading to 600 feet, then turn right heading 120° for vector to the assigned fix/route, climb and maintain 2,100 feet, and to expect NCT assigned altitude five minutes after departure.
- f. Tower must clear an aircraft requesting "VFR-On-Top" to the San Jose VOR, climb and maintain 2,100.

17-3 Departures

- a. Tower must ensure that aircraft depart within two minutes of the release time or obtain another release.
- b. The following separation minima must be applied to departing aircraft:
 - i. Successive departures: 3 miles, constant or increasing.

17-4 Arrivals

- a. The Tower must advise NCT when an approach aircraft cancels IFR.
- b. The Tower must notify NCT "Woodside" immediately if the landing runway on an IFR arrival has changed.
- c. The Tower must notify NCT if an unplanned missed approach occurs.
- d. For an unplanned visual approach go around, Tower must instruct the aircraft to do the following:
 - i. Runway 30: Turn left heading 265°, climb and maintain 3,000. Hand off to NCT.
 - ii. Runway 12: Fly runway heading, climb and maintain 2,100. Hand off to NCT.\

17-5 Scratch Pad

- a. The scratch pad for each aircraft meeting the description below shall be set to the following:
 - i. Three-letter destination of airport identifier for both IFR and VFR aircraft landing NCT airspace.
 - ii. Contain "LCL" for VFR aircraft with no specific destination.
 - iii. Scratch pad for non-standard flights:
 1. "2ER" Bay Tour

Section 18. KSTS Sonoma County Airport

18-1 General Information

FACILITY	CALSIGN	RADIO CALLSIGN	FREQUENCY	VOX CHANNEL
Santa Rosa Ground	STS_GND	Santa Rosa Ground	121.90	STS_GND
Santa Rosa Tower	STS_TWR	Santa Rosa Tower	118.50	STS_TWR
Santa Rosa ATIS	STS_ATIS		120.55	STS_ATIS

18-2 Flight Data

- a. Runways 14/20 are the calm wind runways. If a tailwind component of 10 knots or greater is present, the field shall use the runway most aligned with the wind.
- b. IFR departure releases must be obtained from OAK_41_CTR.
- c. Initial climbs for IFR departures from STS filed for altitudes at or above 8,000 shall be to 8,000.
 - i. Pilots should be told to expect their filed altitude ten minutes after departure.
- d. SVFR Operations.
 - i. The Tower is authorized to conduct SVFR operations within Class D airspace at or below 2,500 MSL.
 - ii. The Tower will suspend SVFR operations 10 minutes prior to the airport ETA of an IFR aircraft, unless visual separation is applied.

18-3 Departures

- a. The Tower will ensure that released IFR aircraft depart within three minutes or the release is cancelled.
- b. Successive departing aircraft must be established on courses that diverge by at least 45 degrees prior to communication transfer.

18-4 Arrivals

- a. The Tower must advise the Center of either "Arrival", "Cancellation", or "Missed Approach".
- b. VFR Practice Approaches
 - i. The Tower will advise the Center when the approach has terminated.

Note Missed approaches are not authorized for VFR practice approaches.