Oakland Center
STANDARD OPERATING PROCEDURE
Version 1.6

List of Changes

VERSION	DATE	DESCRIPTION
1.0	03APR2018	Initial write of policy
1.1	27JUN2018	Format change, added purpose and distribution, add Sacramento info for 41, 44.
1.2	28FEB2019	Removed "Traffic Description", "Sector Flows", "3NM Separation Minima/ Single Site adaptation"; Replaced arrivals with procedure explanations for all sectors. Added new PIRAT STAR.
1.3	20OCT2019	Removed VOX Channel from position tables due to AFV release.
1.4	15JUL2021	Added optional RW sectors, major rewrite to remove redundant sections already mentioned in LOAs.
1.5	07FEB2022	.xx5 frequency change update.
1.6	23FEB2023	Update list of LOAs, add 3NM separation for entire airspace, add general transfer of control provisions, add airport group definitions, update area diagrams, sector narratives, include primary NCT LOA items and general procedures for each area, split off sectorized operations into separate SOP appendices

Section 1. General Information

1-1 Purpose

This Standard Operating Procedure (SOP) outlines the procedures to be used by controllers working Oakland Center Sectors on the VATSIM network, to ensure that traffic flows are handled in as efficient and timely a manner as possible. This SOP is for simulation purposes only and shall not be used for real world use or reference.

1-2 Distribution

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

1-3 Cancellation

All previous procedures are canceled.

1-4 General Procedures

a. When combined, ZOA shall operate all sectors as OAK_CTR using the primary frequency 132.200.
b. The contents of this document contain sufficient information to operate ZOA combined on a day-to-day basis. The appendix documents pertinent to each area contain additional information necessary when operating sectorized.
c. Aircraft unable to accept a STAR or appropriate re-route shall be vectored and sequenced with the closest stream to their location.
d. Letters of Agreement
    i. A general familiarity with the following Letters of Agreement is necessary to provide surrounding and underlying sectors with an orderly traffic flow. The most important points for each area are outlined in this SOP. The full Letters of Agreement can be found on the SOPs/LOAs page.
        1. Los Angeles Center (ZLA) – Fresno TRACON (FAT) – Santa Barbara TRACON (SBA) – Bakersfield TRACON (BFL) LOA
        2. Salt Lake City Center (ZLC) LOA
        3. Seattle Center (ZSE) LOA
        4. Northern California TRACON (NCT) LOA
        5. Fresno ATCT/TRACON (FAT) LOA
        6. Travis RAPCON (SUU) LOA
        7. NAS Lemoore RATCF (NLC) LOA
        8. NAS Fallon RATCF (NFL) LOA
e. At airports with approach control services provided by ZOA, radar may be unreliable to the ground, and therefore controllers may apply non-radar initial arrival/departure procedures.

1-5 3 NM Reduced Separation

a. Oakland ARTCC is simulated to operate using track-based display mode (TBDM) and applies 3 NM reduced separation at altitudes up to and including FL230 across the entirety of ZOA airspace.
b. Because other facilities adjoining Oakland ARTCC may not be operating under these same provisions, controllers must provide any facility not applying 3 NM reduced separation, a minimum of 5 NM, constant or increasing, or another form of separation, prior to transfer of communications and control.
c. To use 3 NM radar separation minima, both aircraft must be at or below FL230 and displaying the 3 NM target symbol (if using vERAM).

1-6 Intra-Facility Transfer of Control

a. Appendices of this SOP establish intra-facility control provisions, on a sector-to-sector basis, to be used when sectorized.
b. Where more specific provisions are not defined, the receiving ZOA sector has control for turns of up to 15 degrees left/right of course, speed, beacon code changes, and scratchpad changes.

1-7 Airport Group Definitions

GROUP NAME	AIRPORTS
Sacramento Valley	SMF, SAC, MHR, MCC, BAB, LHM
Reno Area	RNO, RTS, MEV, CXP, SPZ, TRK, TVL
Wine Country	APC, STS, O69, DVO, HES, CA35
Bay Area	SFO, OAK, SJC, HWD, PAO, SQL, RHV, NUQ, HAF
J92/Q13/BTY Corridor	The corridor of airspace owned by ZLA directly adjacent to ZOA Area East between Nellis NATCF and Joshua Control Facility

1-8 Aircraft Definitions

AIRCRAFT	DESCRIPTION
P (Prop)	Non-jet aircraft with a cruise speed of 179 knots or less
T (Turboprop)	Non-jet aircraft with a cruise speed of 180 knots or greater
J (Jet)	Jet aircraft and 4-engine turboprop aircraft

Section 2. Area East Operating Procedures

2-1 General Information

Area East is comprised of a diverse amount of airspace and traffic flows, overlying portions of eastern California and western Nevada. The area is responsible for sequencing traffic arriving to the San Francisco Bay Area, Reno, Sacramento Valley, and Las Vegas area airports. Due to the Sierra Nevada Mountain range, high terrain adds significant complexity. In addition, Area East provides approach control services to popular mountain airports (Truckee, South Lake Tahoe, Mammoth Lakes, and Bishop) and provides the final sequence for Reno and Sacramento area airports.

2-2 Daily Procedures

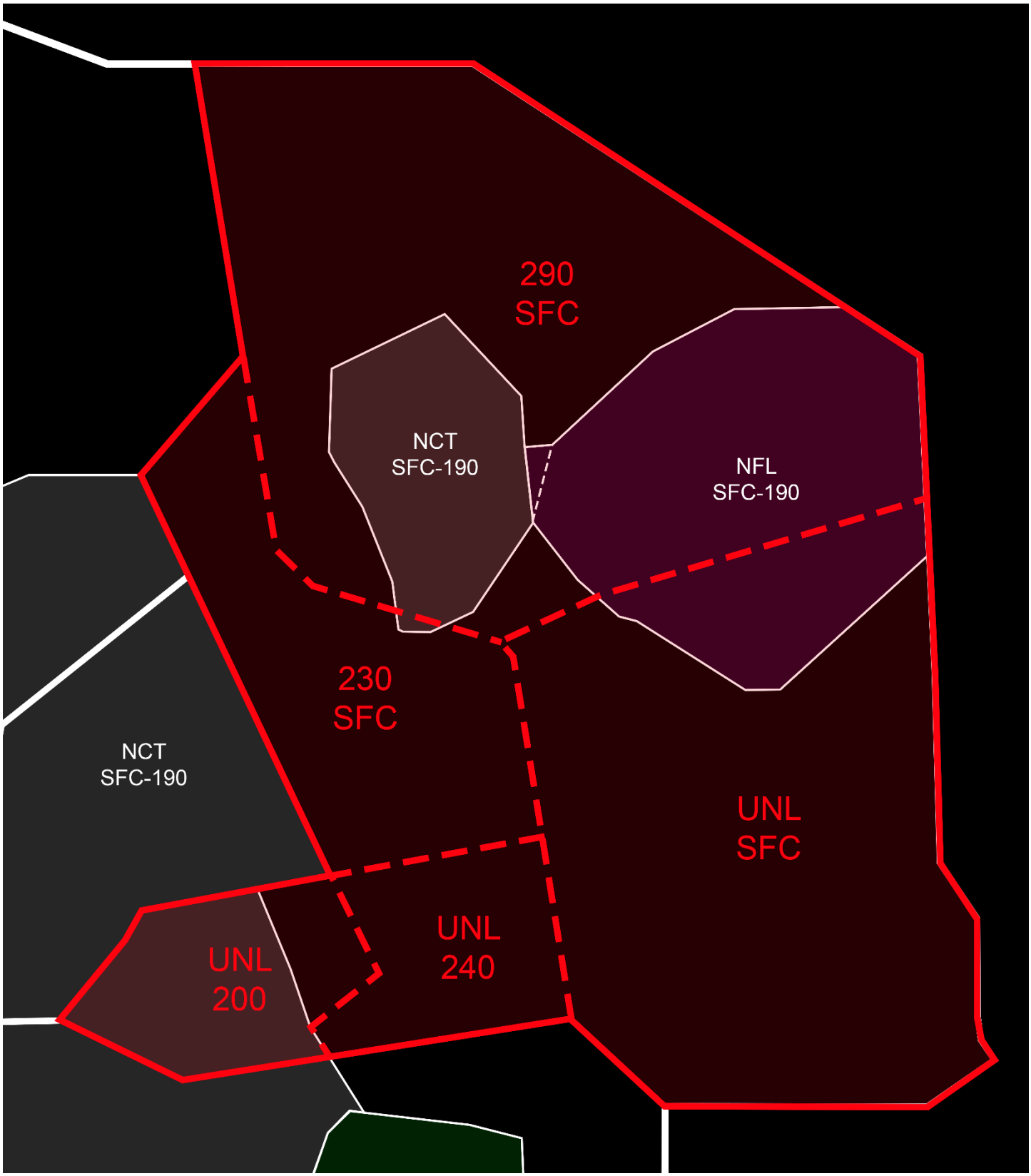
a. When managing Reno Area arrivals via FMG, controllers should anticipate descending them below aircraft climbing out of the Bay Area, as needed.
b. Before issuing further climb to southbound Sacramento Valley departures, controllers should ensure there are no conflicts with Bay Area arrivals.
c. San Jose arrivals may need to start descending prior to exiting Area East and entering Area South. They are typically initially assigned a descent to FL300.
d. Area East provides approach control services for TVL and TRK. Some approach and departure procedures require coordination with NCT for an airspace block, due to needing to protect for holds published on those procedures.

2-3 LOA Summary

Routes into NCT

DEST	ROUTE	ACFT	ALT	HANDOFF
SFOW/RNOS				
SFO	DYAMD#	J	Descend via	Cedar (Area B)
OAK	OAKES#	J	Descend via	Sunol (Area C)
	SHARR# (OAKE)		FL200	
RNO	FMG	J, T	16k	Silver (Area E NV)
	SCOLA#	J, T	Descend via	
	RYANN#		16k	
	ORRCA#	J, T	Descend via	Nugget (Area E NV)
	ORRCA HOBOA WALAR		16k	
	HARTT#	J, T	Descend via	
	LIBGE FMG		14k	
	MYBAD#	J, T	Descend via	
	ANAHO#		14k	
SFOE/RNON				
SFO	ALWYS#	J	Descend via	Cedar (Area B)
OAK	BANND#	J	Descend via	Sunol (Area C)
RNO	TARVR#	J, T	Descend via	Silver (Area E NV)
	SPOON		14k	
	EELZA#	J, T	Descend via	Nugget (Area E NV)
	WADOL#			
	FMG		14k	
ALL CONFIGURATIONS				
SFO	MOD#	J	FL200	Cedar (Area B)
SMF	SLMMR#	J, T	Descend via	Elkhorn (Area E CA)

2-4 Area Diagram



Section 3. Area North Operating Procedures

3-1 General Information

Located in the Northwest corner of ZOA Airspace, Area North provides approach control services to airports from Wine Country up to Redding, CA. Area North works Bay Area arrivals from the north and Bay Area departures to the north and northeast.

3-2 Daily Procedures

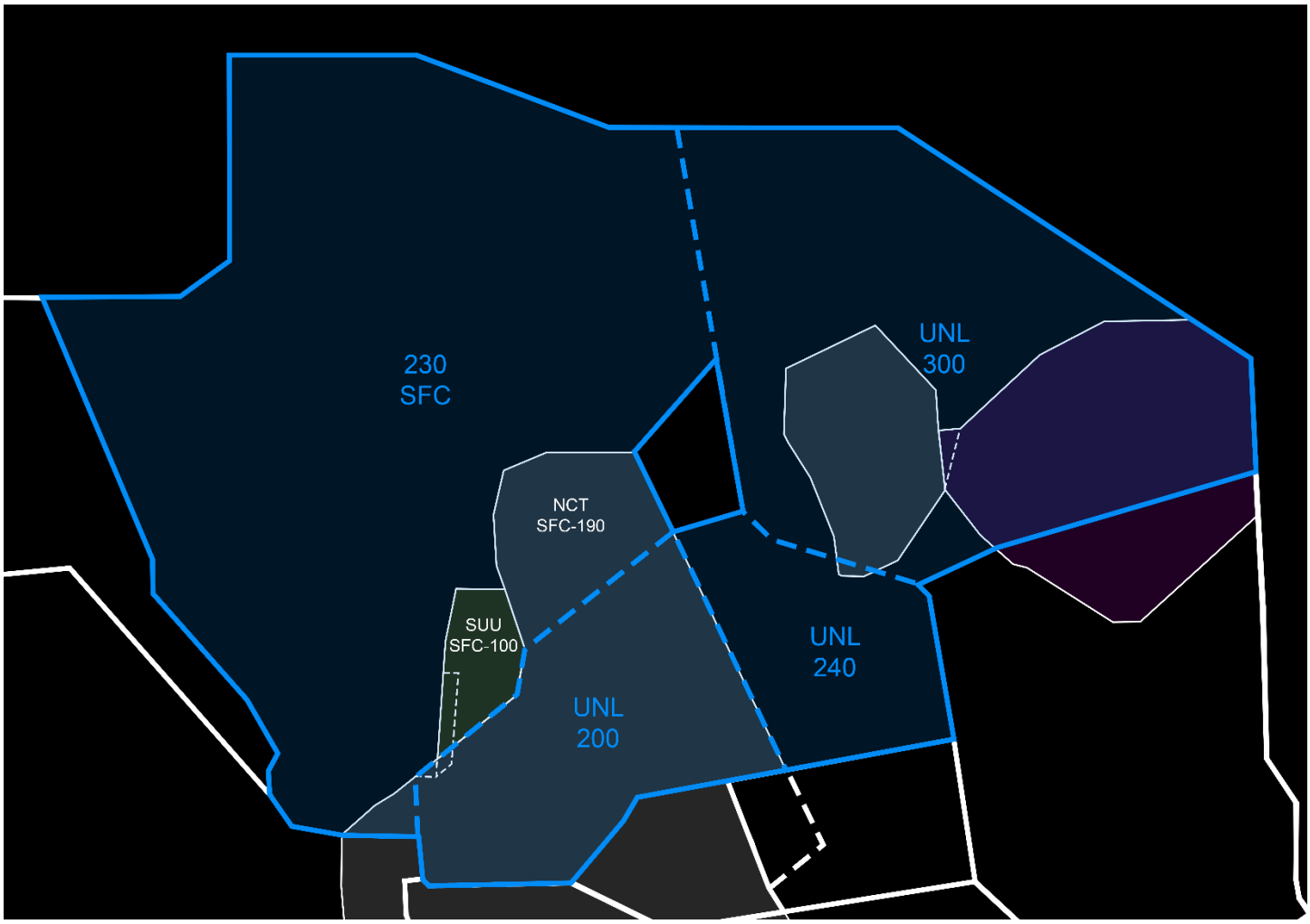
a. Controllers should use caution when climbing/shortcutting Sacramento Valley departures heading southbound as they may interfere with Bay Area arrivals. Typically, they are initially assigned an odd cardinal altitude up to FL290.
b. Before climbing Bay Area departures to the north, controllers should ensure they are not in conflict with arrivals from the northeast.
c. When vectoring aircraft for an approach at Wine Country airports, controllers should ensure that traffic is retained in ZOA airspace and pointed out to NCT if this is not possible.

3-3 LOA Summary

Routes into NCT

DEST	ROUTE	ACFT	ALT	HANDOFF
SFOW				
SFO	BDEGA# PYE SFO	J, T	Descend via 6 NW SFO @ 11k, 250 kts (J)	Boulder (Area B)
OAK	WNDSR# REBAS OAK	J, T	Descend via REBAS @ 7k	Richmond (Area D)
SJC	BRIXX# SAU SFO	J, T	Descend via SFO @ 12k	Boulder (Area B)
SFOE				
SFO	STLER# STINS# or PYE STINS	J, T	Descend via PYE @ 9k	Boulder (Area B)
OAK	AANET# SAU OAK	J, T	Descend via 10 NW SAU @ 5k	Grove (Area C)
SJC	FRLON# BRINY# or PYE BRINY OSI	J, T	Descend via 20 S PYE @ 11k	Boulder (Area B)
ALL CONFIGURATIONS				
SMF	TUDOR# Direct	J, T	12k 9k	Elkhorn (Area E CA)

3-4 Area Diagram



Section 4. Area South Operating Procedures

4-1 General Information

Area South works commercial, military, and general aviation aircraft from the San Francisco Bay Area to Paso Robles (KPRB), Bakersfield (KBFL), and the Yosemite Valley as well as arrivals into San Jose (KSJC) and Sacramento International (KSMF) airports. Additionally, they are the primary sequencing area for Los Angeles (KLAX) arrivals southbound from Asia and the Pacific Northwest.

4-2 Daily Procedures

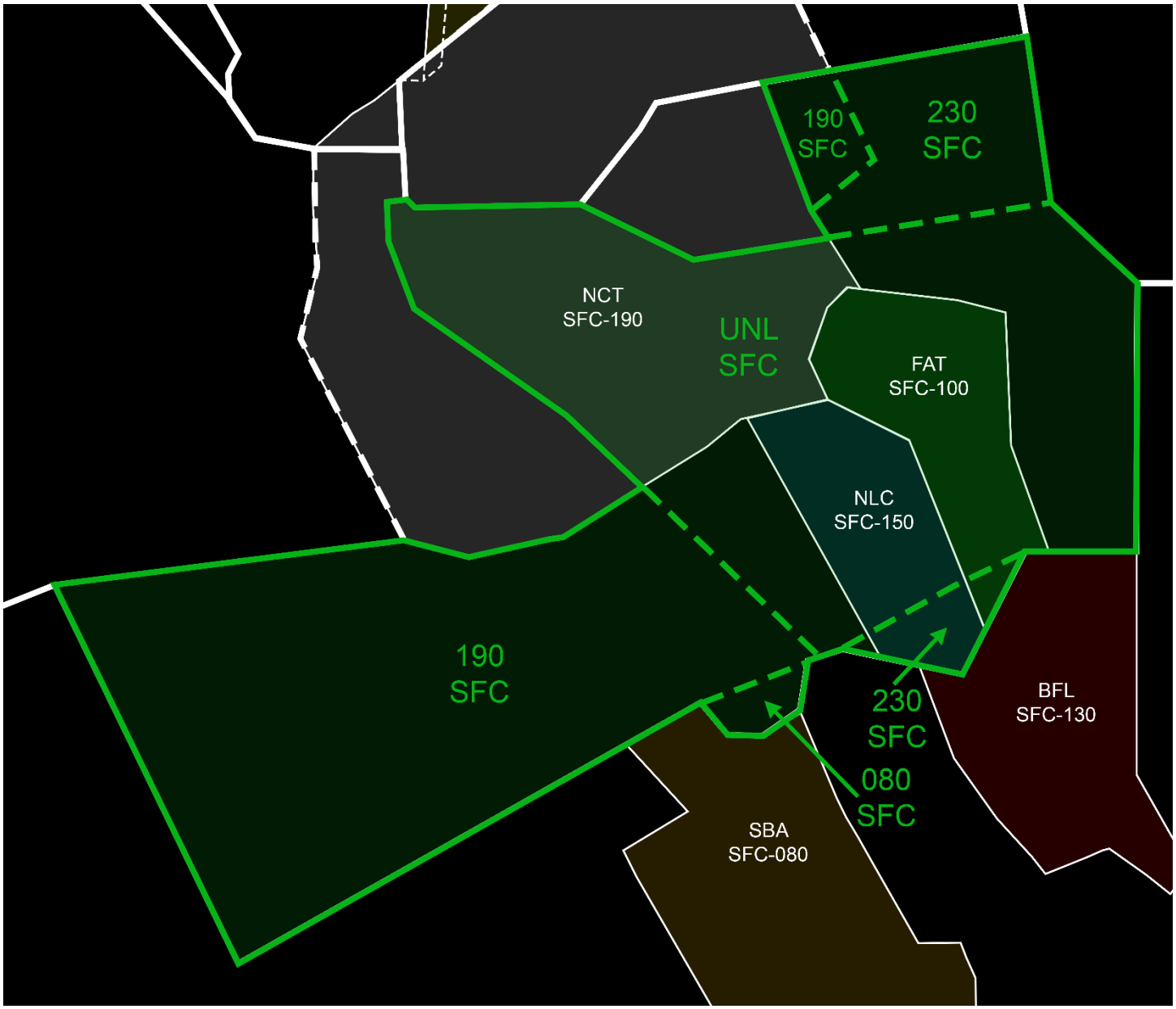
a. Area South should ensure aircraft descending via the SUUTR# arrival comply with the published descent path as it ensures separation from Bay Area arrivals.
b. Area South provides approach control services for E45 and MPI. NCT provides approach control services for O22. Coordination will be necessary between the two facilities to ensure these operations are appropriately protected.

4-3 LOA Summary

Routes into NCT

DEST	ROUTE	ACFT	ALT	HANDOFF
SFOW/MRY28/FAT29				
OAK	EMZOH#	J	Descend via	Morgan (Area A)
MRY	WIGGL	J, T, P	WIGGL @ 10k	Seca (Area A)
FAT	SANGO	J, T, P	11k	*Varies*
SFOE/MRY10/FAT11				
OAK	SKIZM#	J	Descend via	Morgan (Area A)
MRY	SNS	J, T, P	10k	Seca (Area A)
FAT	NTELL	J, T, P	11k	*Varies*
ALL CONFIGURATIONS				
OAK	PXN# or PXN V301 SUNOL	J, T, P	FL200	Morgan (Area A)
SJC	RAZRR#	J, T	Descend via	Morgan (Area A)
	GILRO		FL200	
SMF	SUUTR#	J	Descend via	Sunol (Area C)
	TURLO LIN		FL200	
FAT	ALTTA#	J, T, P	11k	*Varies*

4-4 Area Diagram



Section 5. Pac North Operating Procedures

5-1 General Information

Located at the Northwest corner of ZOA airspace, Pac North performs the initial sequencing for bay area arrivals from the North. Pac North also functions as a transitional sector for oceanic outbound and inbounds from the Pacific Ocean. Pac North is comprised of complex flows of traffic from several different directions. Pacific Northwest (KSEA, KPDX) bay area departures, bay area arrivals, and Southern California basin overflights (KLAX, KSAN) routinely create conflict situations throughout the sector.

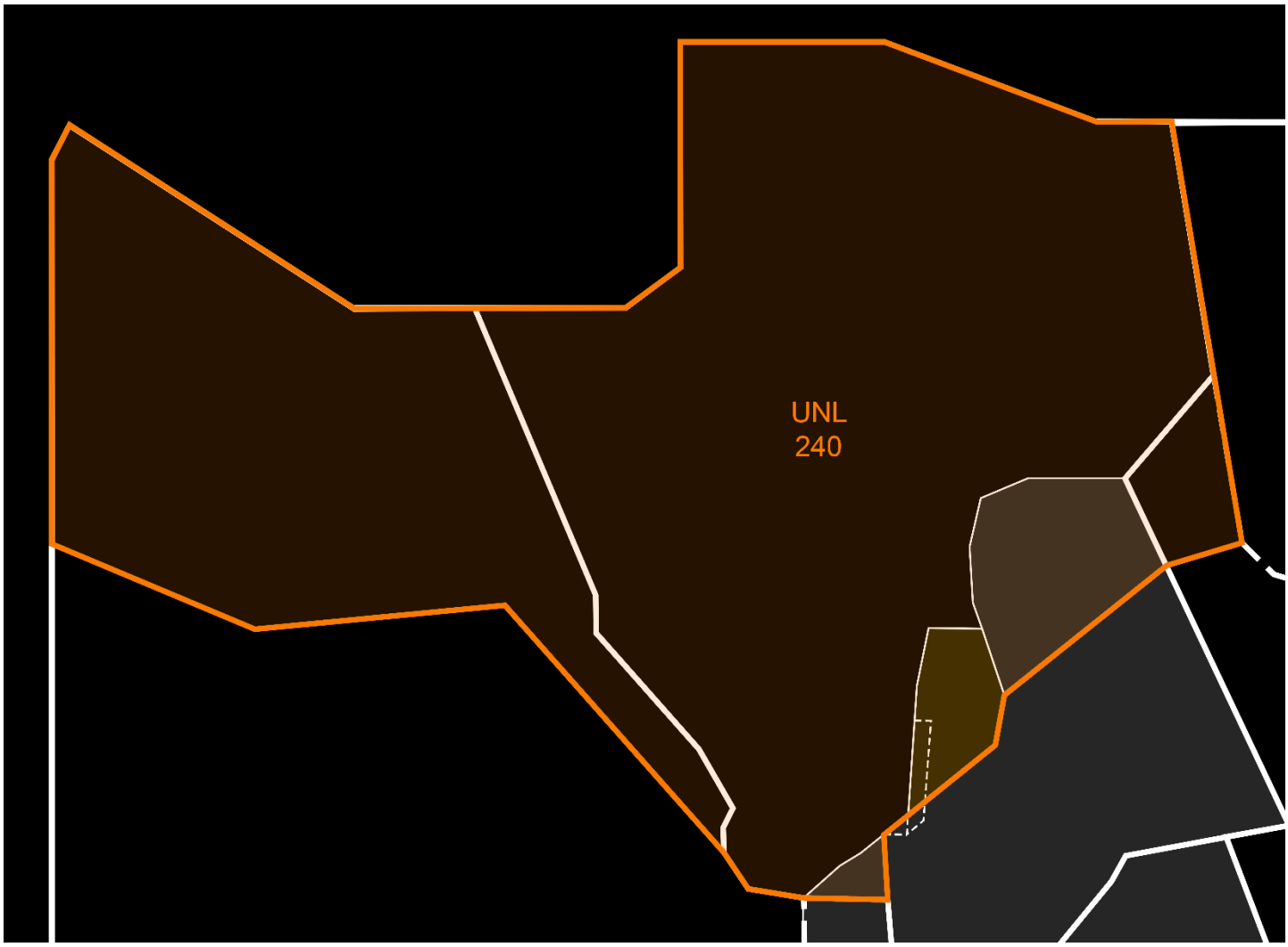
5-2 Daily Procedures

a. Pac North flights going out over the ocean will require coordination with Oakland Oceanic, if online. This coordination shall occur at least 15 minutes prior to the transfer of control point (TCP) and should include the callsign of the aircraft, TCP fix, and assigned altitude.

5-3 LOA Summary

Reserved.

5-4 Area Diagram



Section 6. Pac South Operating Procedures

6-1 General Information

Pac South is responsible for Southbound Bay Area departures as well as parallel arrival strings into KSFO and KSJC.

6-2 Daily Procedures

a. When working departures from the Bay Area via the offshore route, controllers should use caution when shortcutting these aircraft, as it may put them in the path of Bay Area arrivals.
b. SMF arrivals over PYE will typically be descended to FL230 before leaving Pac South.
c. Pac South flights going out over the ocean will require coordination with Oakland Oceanic, if online. This coordination shall occur at least 15 minutes prior to the transfer of control point (TCP) and should include the callsign of the aircraft, TCP fix, and assigned altitude.

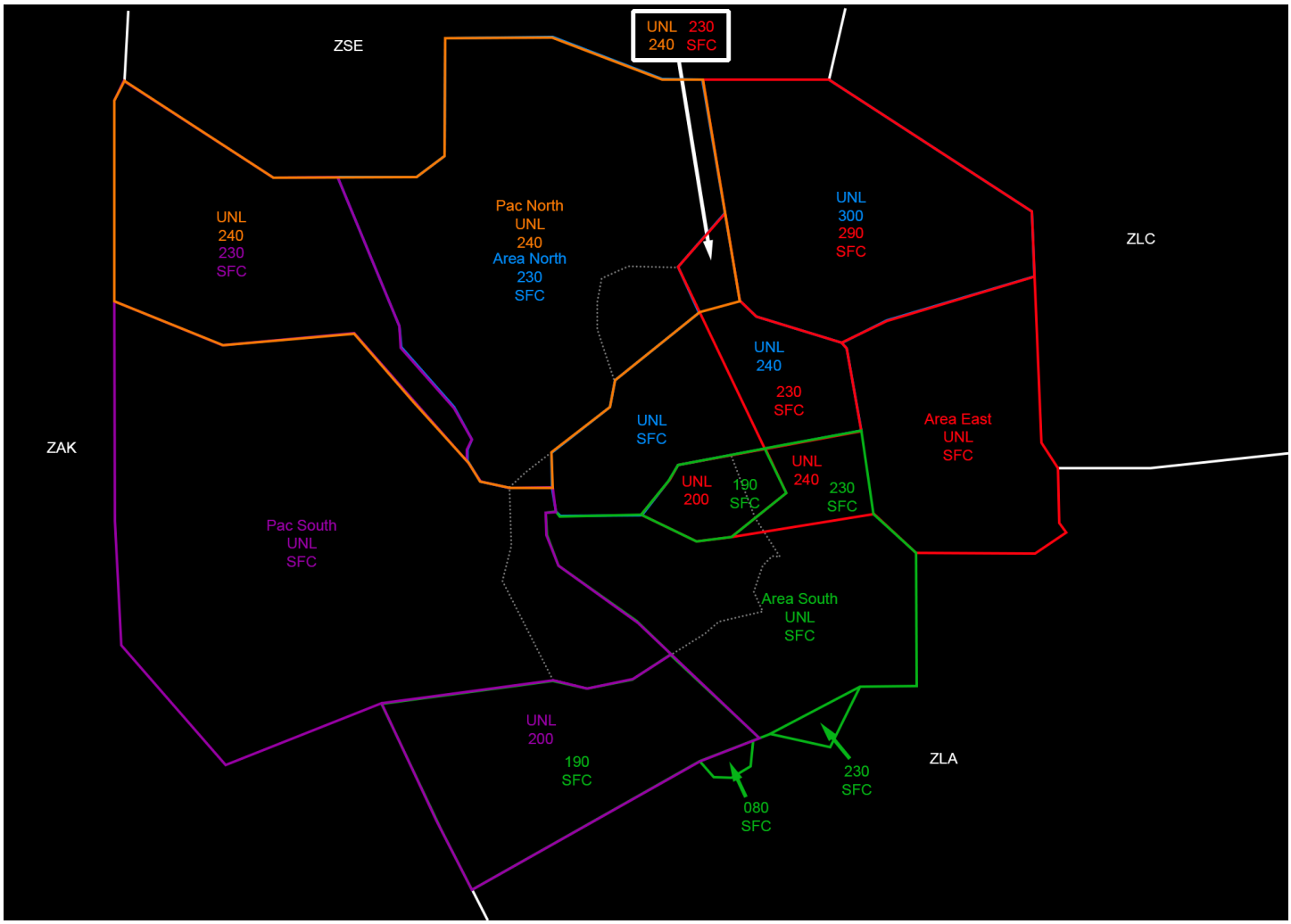
6-3 Procedures

Routes into NCT

DEST	ROUTE	ACFT	ALT	HANDOFF
SFOW				
SFO	SERFR#	J	Descend via	Laguna (Area B)
	BSR#		FL200	
	PIRAT#	J, T, P	PIRAT @ 10k	Boulder (Area B)
	PIRAT OSI			
SJC	SNS GILRO	J, T	15 S SNS @ FL200	Morgan (Area A)
	TPCAT HEPAP SJC	J, T, P	TPCAT @ 10k	Boulder (Area B)
SFOE				
SFO	WWAVS#	J	Descend via	Laguna (Area B)
	SHOEY V27 HADLY SAU		FL200	
	PIRAT SAU	J, T, P	PIRAT @ 8k	Boulder (Area B)
SJC	SNS JESEN	J, T	15 S SNS @ FL200	Morgan (Area A)
	TPCAT HEPAP SJC	J, T, P	TPCAT @ 8k	Boulder (Area B)
ALL CONFIGURATIONS				
SJC	SILCN#	J	Descend via	Morgan (Area A)

6-4 Area Diagram

Appendix A. Combined Area Map



Appendix B. Additional ZOA Sectors

Information regarding sectorized operations, including finer sectorization than by area has been moved to a separate appendix document for each area. These can be found under Procedures on the website.