Chapter

2

2.0 General Operating Procedures for R-2508 Complex

This chapter discusses general operating procedures relating to all work areas, including:

2.1 General Complex Information

2.2 The Scheduling Process

2.3 Complex Scheduling Agencies

2.4 Special Activities

2.5 Scheduling Special Operations

2.6 Scheduling Large-Scale Exercises

2.7 Operating Remotely Operated Aircraft (ROA)

2.8 Flight Planning Requirements

2.1 General Complex Information

The Joint Policy and Planning Board (JPPB) is chartered by DoD to act as the overarching and policy body for the R-2508 Complex. All JPPB sponsored units operating within the R-2508 complex **shall receive an annual face-to-face R-2508 Complex briefing** on Complex Operations and Procedures from the R-2508 Central Coordinating Facility (CCF) or their sponsoring JPPB Commander (e.g. Navy/Marine Corps units are sponsored by the Commander, NAWCWD). The R-2508 brief will address scheduling procedures; safety concerns, and overflight sensitivities. Annual briefings are normally conducted in January and February each year. Additionally, CCF provides airspace briefings for special/large scale operations on an as needed basis.

****Commanders of units flying in the R-2508 Complex are responsible for ensuring their aircrews are briefed annually on R-2508 Complex procedures****

- Users include participating aircraft transiting the airspace to installations located within the R-2508 Complex.
- Civilian aircrews operating under an R-2508 Complex Letter of Agreement (LOA) are required to comply with the briefing requirements and operating procedures defined herein, except as modified by the terms of the LOA.
- Any JPPB sponsored unit that hosts a transient unit will be responsible for that transient unit's compliance with R-2508 Complex operations and Procedures.
- Only JPPB sponsored activities that have received the annual R-2508 Complex brief will be allowed to schedule missions in the complex

The R-2508 Complex is comprised of Military Operations Areas (**MOA**s) and Air Traffic Control Assigned Airspace (**ATCAA**s).

MOAs: The four main MOA work areas—Isabella, Owens, Saline, and Panamint—have a minimum altitude boundary of 200 feet AGL (see Figure 2-1).

- MOAs **DO NOT** include airspace below 1,500 feet AGL within 3 miles of any charted airport, except for Mojave Airport's Class D airspace (4,800 feet MSL within a 5 NM radius, excluding the airspace east and parallel to a line ½ mile west of R-2515).
- **Portions of these major work areas are located over Sequoia/Kings Canyon National Parks, John Muir and Domeland Wilderness Areas, and Death Valley National Park, (see Figures 7-4 & 7-5) where the lower limit of the MOA is 3,000 feet AGL.**

NOTE: Exclusion of MOA airspace about the Death Valley National Park and Domeland Wilderness Area applies to the 1977 contours of the former National Monument and Wilderness Area. This difference in affected airspace may not be accurately reflected in Sectional Charts. Refer to Figures 7-4 & 7-5 in Section 7.0 and contact CCF for more information.

***CAUTION!* The Owens MOA does not include the airspace that is designated as Bishop MOA (Figures 2-1 and 2-2). Aircrews must be aware of this boundary difference to prevent spillouts into Oakland Air Route Traffic Control Center (ARTCC) airspace.**

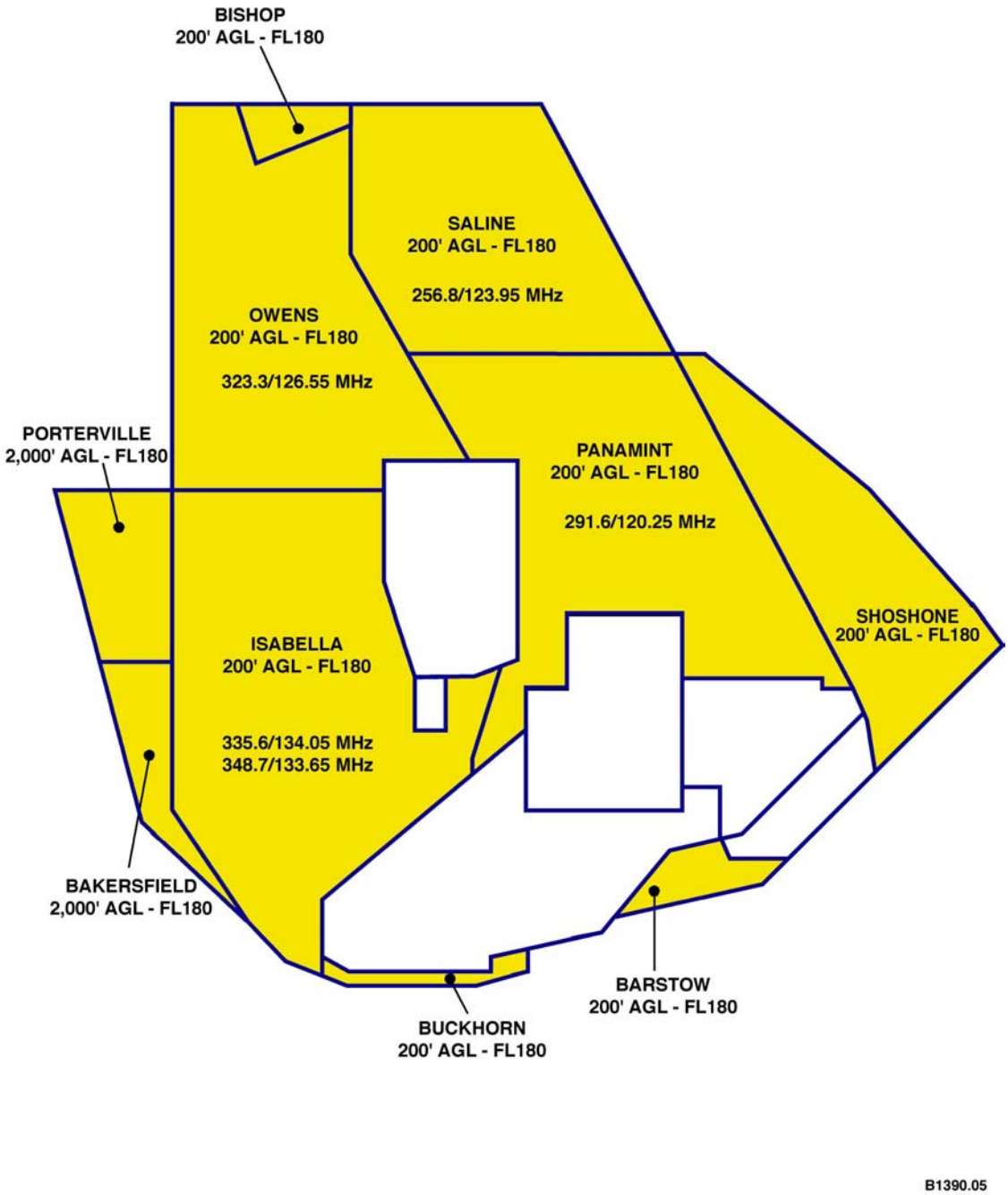

Figure 2-1. *Military Operations Areas (**MOAs**).*

ATCAAs: The ATCAAs (Figure 2-2) are used to fill the airspace gap between the top of the MOAs (FL180) and the base of R-2508 (FL200). When R-2508 is not activated, the ATCAAs may extend upward to FL600. ATCAAs are also located above the peripheral MOAs, outside the lateral boundaries of R-2508, to provide additional work areas up to FL600 for segregation of military operations from IFR traffic.

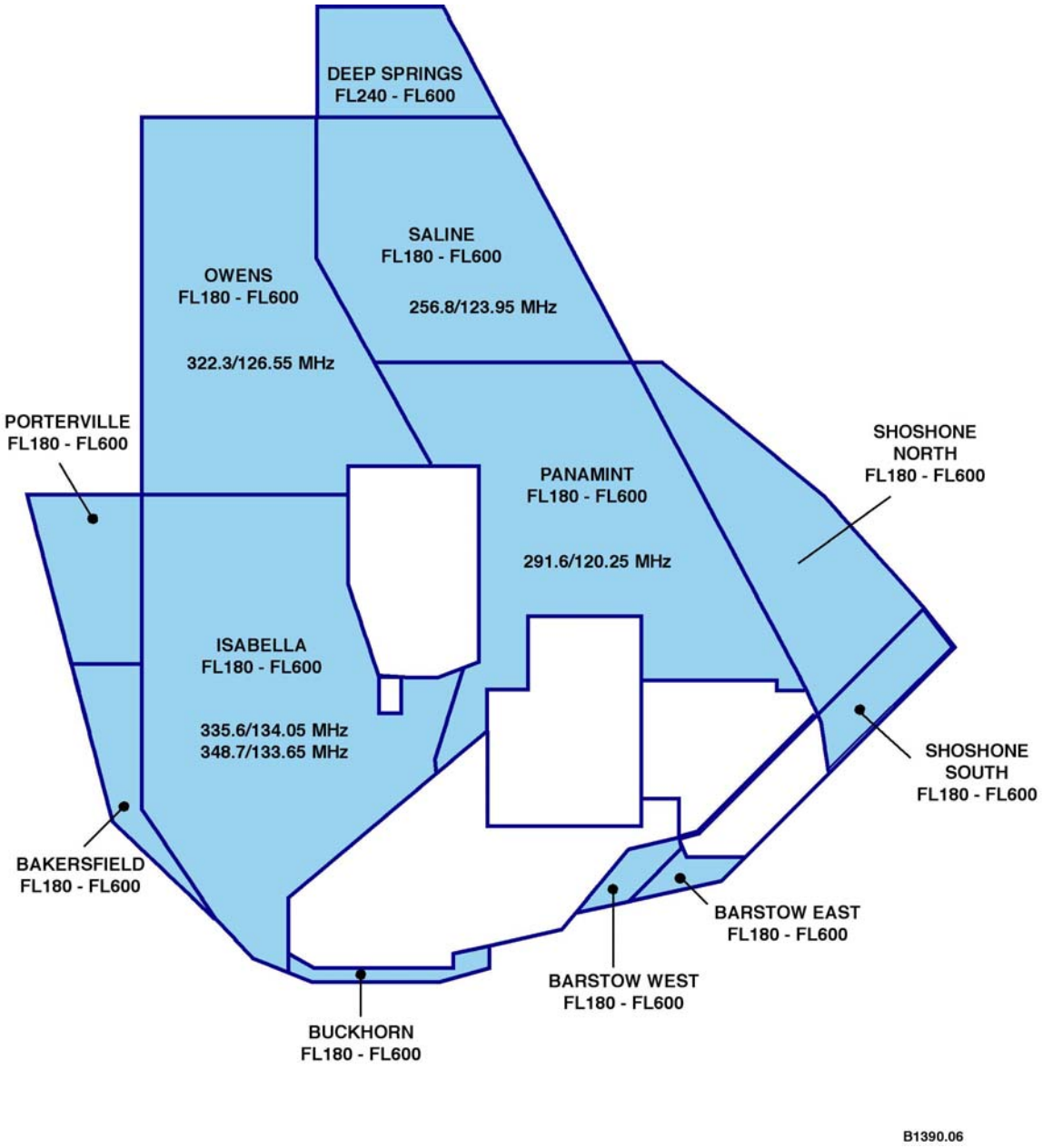

Figure 2-2. *Air Traffic Control Assigned Airspace (**ATCAAs**).*

2.2 The Scheduling Process

R-2508 Complex scheduling requirements apply to all Complex flight activities, including special operations and large-scale exercises.

CCF is the designated airspace management and scheduling authority for the R-2508 Restricted Area, Military Operations Areas (MOAs), and Air Traffic Control Assigned Airspace (ATCAAs). CCF coordinates mission requirements of all R-2508 Complex users to ensure optimum airspace utilization and safety.

NOTE*: Military units requiring use of R-2508 Complex airspace must comply with scheduling requirements established in OPNAVINST 3710.7, AFI 13-201, U.S. Army AR 95-50, FLIP, and this Handbook.*

2.2.1 irspace Scheduling

Airspace is either activated for military use or released for joint use.

When R-2508 Complex airspace is activated for military use, it is reserved as **scheduled**. When Complex airspace is not scheduled, it is released to the Federal Aviation Administration (FAA) for **Joint-Use**.

When scheduling airspace:

- **Request only those areas and altitudes necessary for mission completion.** Additional areas and altitudes may be requested in flight, if required, contingent upon the status of the airspace (activated for military use or released for joint use).
- **CCF must have 2 hours notice to reactivate MOA/ATCAA airspace.** JOSHUA (FAA) will NOT issue a work area clearance when airspace is released for joint use.
- **Schedule any weekend and holiday operations through CCF during normal CCF operating hours, M-F 0600-1800 Local** (excluding Federal holidays)**.**
- **Changes to *previously scheduled* events shall be coordinated with the CCF duty airspace manager at: 1-866-805-2851.**
- **Changes in Area that require activation of additional airspace must be made at least 2 hours in advance to activate the airspace.**
- **Forward cancellations directly to TRACON at (661) 277-3843 or DSN: 527-3843**

NOTE: TRACON is NOT authorized to schedule or activate any unscheduled R-2508 Complex airspace.

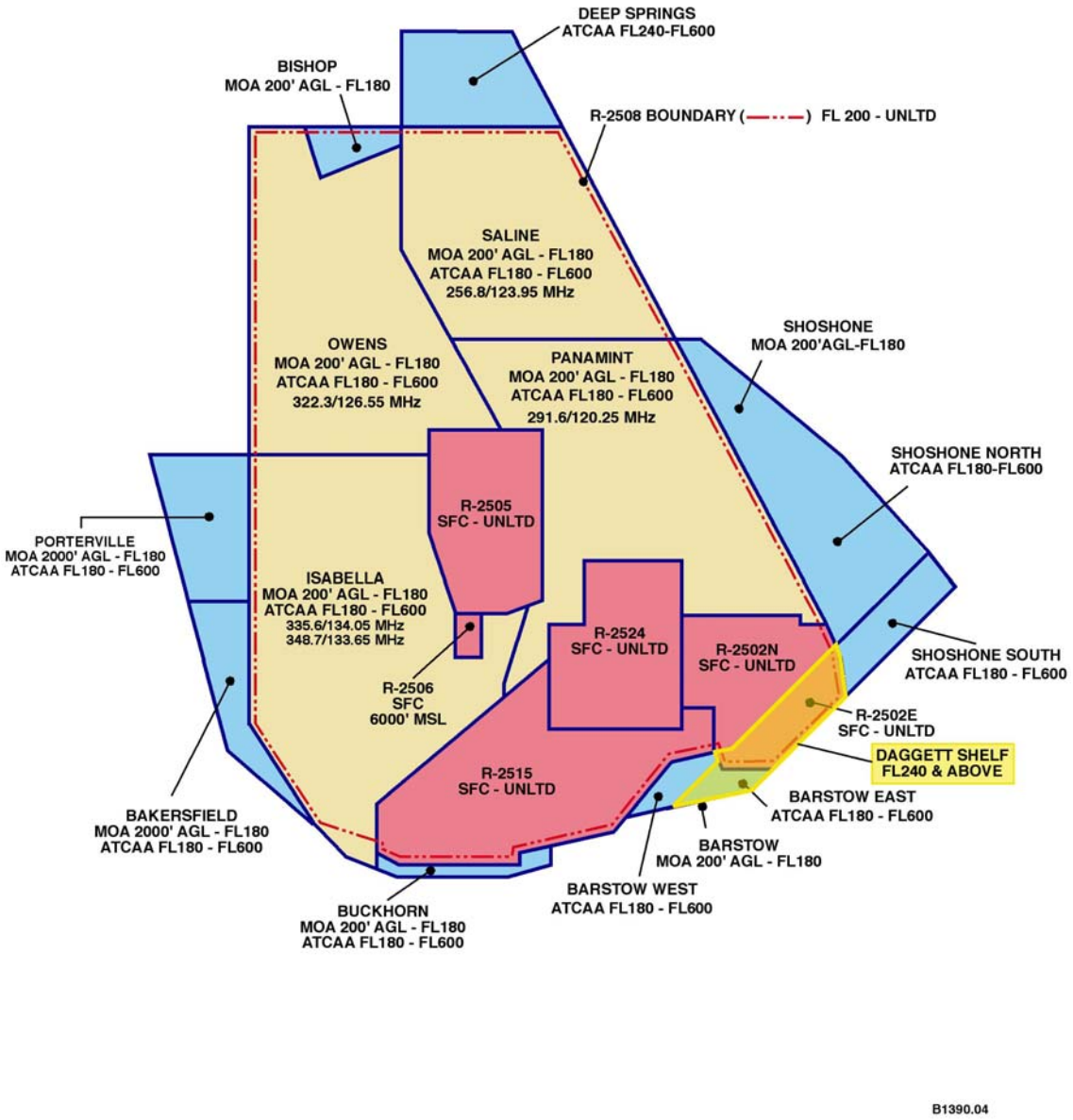

Figure 2-3. *Overview of R-2508 Complex Airspace.*

2.2.2 Aircraft Scheduling

To schedule aircraft in the R-2508 Complex:

1. **Submit the R-2508 Complex Airspace Request Form to CCF by 1700(local) one working day prior to the date of intended use.**
2. **Submit the R-2508 Complex Airspace Request Form for weekend or holiday period events to CCF by 1700(local), the Friday before.**
   - **If the flight schedule is late, airspace/work areas may not be available due to the release of Complex airspace for joint use.**

Information shall include:

- Aircraft Call Sign
- Number and Type aircraft
- Estimated time of entry (in ZULU) into Complex airspace
- Estimated delay within Complex airspace (1+00, 1+30 etc.)
- Altitudes (highest altitude required for mission)
- Departure/Arrival airport
- Requested and/or approved airspace. Indicate work areas (MOAs/ATCAAs) **and** any internal restricted areas.
  - *Aircrews are responsible for scheduling any Internal Restricted areas with the appropriate agency.*
- Remarks
  - Type mission/activity to be conducted
  - Mission frequency, if required
  - Any MTRs, low-level or navigation routes that affect R-2508 Complex airspace. (Aircrews are responsible to schedule any route of intended use with the appropriate route scheduling agency)
  - ANY special activities (e.g., NVG/NVD, ECM, Tanking, "Lights out," etc.)

Call Signs

Call signs provided to CCF for activities in the R-2508 Complex shall not exceed 7 characters/numbers and shall be the same as filed on a DD-175. Two-letter abbreviated call signs, such as BH-1 for "Bloodhound 01," will be interpreted and broadcast as "BRAVO HOTEL 01" by Air Traffic Control (ATC). Tactical call signs shall not exceed 7 characters/numbers and shall be a pronounceable word, in accordance with *DoD FLIP, General Planning (GP), Flight Plans*.

Additions, Changes, and Cancellations

Any add-ons, call sign changes, or time slips of more than 1/2 hour before or 1 hour after the proposed time of Complex entry, NOT coordinated with CCF, are considered unscheduled events.

- If changing ***previously scheduled*** events after CCFs normal working hours (0600-1800 M-F) contact CCF duty Airspace Manager at: 1-866-805-2851.
- Changes in area that requires activation of additional airspace must be made at least 2 hours prior to activate the airspace.
  - **Notification of cancellations is required to ensure proper management and release of Complex airspace for joint use.**

2.2.3 Policy for Unscheduled Aircraft

For unscheduled aircraft, the following procedures are enforced:

1. **Fixed-wing units failing to comply with scheduling policies shall be restricted from entry/operating within R-2508 Complex airspace.**
2. IFR aircraft may encounter extensive delays or may be denied access when requesting to transit the R-2508 Complex if they are not participating aircraft.

2.2.4 Transitioning Participating Aircraft

Participating aircraft that have filed a flight plan to land at Naval Air Weapons Station (NAWS) China Lake or Edwards Air Force Base **must schedule with CCF**.

- **Failure to do so may cause the aircraft to be considered as unscheduled.**

2.3 Complex Scheduling Agencies

Units planning operations in R-2508 Complex airspace should be prepared to coordinate and schedule through one or more of the following agencies that have scheduling and operational control.

Area	Agency	Hours of Operation	Function	Contact Numbers
R-2508, MOAs & ATCAAs	R-2508 Central Coordinating Facility (CCF)	0600–1800 M-F	Complex Management, User / Pilot Briefings, Airspace Scheduling	DSN 527-2508 (661) 277-2508 Fax: DSN 527-4798 (661) 277-4798 Mobile: 1-866-805-2851 E-mail: **2508CCF@edwards.af.mil**
R-2502N / R-2502E	NTC Fort Irwin	24 hours a day	Scheduling	DSN 470-4320 / 6816 (760) 380-4320 / 6816 Fax: DSN 470-6368 (760) 380-6368
		0800–1600 M-F	Installation Aviation Officer	DSN 470-4072 / 4167 (760) 380-4072 / 4167 Fax: DSN 470-6368 (760) 380-6368
R-2505 / R-2506	NAWCWD China Lake	0700–1700 M-TH 0700–1600 Non-civilian payday Fridays	COSO Range Scheduling	DSN 437-6800 (760) 939-6800 Fax: DSN 437-6950 (760) 939-6950
			Test Management Office	DSN 437-6807 (760) 939-6807 Fax: DSN 437-6950 (760) 939-6950
			Airspace Surveillance Center (ASC) "China Control"	DSN 437-6908 / 6909 (760) 939-6908 / 6909 Fax: DSN 437-6855 (760) 939-6855
R-2515	Edwards AFB	0600–1700 M-F	Resource Operations Center	DSN 527-3940 / 4110 (661) 277-3940 / 4110 Fax: DSN 527-9685 (661) 277-9685
R-2515	Edwards AFB	0600–1530 M-F	Airspace Management Office	DSN 527-2446/ 4453 (661) 277-2446 / 4453 Fax: DSN 527-4462/5544 (661) 277-4462/5544

Area	Agency	Hours of Operation	Function	Contact Numbers
R-2524*	NAWCWD China Lake	0630–1630 M-TH	Echo Range (ECR) Scheduling	DSN 437-9128 / 9131 (760) 939-9128 / 9131 Fax: DSN 437-9152 (760) 939-9152
			Test Management Office	DSN 437-9149 (760) 939-9149
Superior Valley	NAWCWD China Lake	0630–1630 M-TH	Range Manager	DSN 437-9434 (760) 939-9434 Fax: DSN 437-9152 (760) 939-9152

R-2524 does not schedule Superior Valley Tactical Training Range.

2.4 Special Activities

Special activities are defined as operations involving one or more of the following:

- Aerial refueling
- Anchoring/Holding pattern requirements
- Air intercept/Air Combat Maneuvering (ACM) activities (5 to 10 aircraft)
- Escorted Remotely Operated Aircraft (ROA) or missile flights
- Ground control intercept (GCI) activities
- A concentration or continuous flow of aircraft
- Electronic Counter Measures (ECM) (jamming/chaff corridors; not self-protection)
- Airborne Radar Unit (ARU)/Communications link
- Tow Operations

Requests for special activities must be submitted with at least 7 working days' lead time to allow all necessary coordination/changes to be approved by at least 48 hours prior to the scheduled operation.

- Lead times and approval requirements are required to allow other units to be briefed on the operation (times, routes, altitudes, activities, etc.) and deconflict the proposed operation from other activities within the Complex.
- **Appendix C: Mission Planning Checklist**, is designed to be provided to CCF in order to simplify coordination of Special Activities for missions involving 10 or fewer aircraft.

CCF has the authority to designate refueling areas, ACM areas, entry/exit routes, etc., and will coordinate the proposed operation to minimize impact on other Complex users while retaining scenario realism. Final approval authority rests with the CCB.

2.5 Scheduling Special Activities

This section discusses the following special activities that are carried out within the Complex that may affect where and how other missions are flown within the Complex:

2.5.1 "Lights Out" Operations

2.5.2 Electronic Counter Measures/Chaff

2.5.3 Flares

2.5.4 Aerial Refueling

2.5.5 Supersonic Operations

2.5.6 Airborne Radar Unit (ARU)/Airborne Warning and Control Systems (AWACS) Operations

2.5.7 Tow Operations

2.5.1 "Lights Out" Operations

"Lights out" operations are allowed **ONLY within these internal restricted areas: R-2505, R-2524, R-2502N, and R-2502E**.

"Lights out" operations are NOT authorized in any other special-use airspace, including R-2508.

Units that require "lights out" operations shall contact the appropriate scheduling agency for the internal restricted area listed in Section 2.3.

- Aircrews shall advise the controlling agency when commencing and terminating "lights out" operations.
- Aircrews shall leave aircraft position lights ON while transiting to and from the scheduled restricted area. Turn lights OFF only when authorized within the internal restricted area.

A waiver to FAR 91.209 is unnecessary if the aircraft is operating in a restricted area in compliance with the using/scheduling agency's rules of operation for that internal restricted area.

2.5.2 Electronic Counter Measures/Chaff

For activities using electronic counter measures (ECM) (jamming and/or chaff) in the R-2508 Complex, you must pre-coordinate with and obtain approval from appropriate Base

Spectrum Managers. Users must also inform CCF about these activities during the scheduling process.

Spectrum Managers	DSN	Commercial
WAFC, Pt. Mugu	351-7983	(805) 989-7983
AFFTC, Edwards AFB	527-2390	(661) 277-2390
NAWCWD, China Lake	437-6827	(760) 939-6827
National Training Center, Fort Irwin	470-3280	(760) 380-3280

2.5.3 Flares

Flare use is limited to internal restricted areas only and **IS NOT** authorized in R-2508 restricted, MOA, or ATCAA airspace. Flare use must be coordinated with the appropriate restricted area's scheduling agency.

2.5.4 Refueling Areas

The R-2508 Complex has three *unpublished* refueling areas (see Figure 2-4). These areas are available for use and must be scheduled with the Edwards AFB Resource Operations Center or CCF.

Refueling area definitions:

Area	Entry	Outbound	Latitude	Longitude	Frequency
Isabella	PMD 345°/ 35	PMD 345R, left turns	35°13'N	118°04'30"W	234.825 MHz
Coaldale	OAL 155°/ 60	OAL 155R, left turns	37°00'N	117°33'W	252.175 MHz
Shoshone	BTY 150°/ 60	BTY 150R, left turns	35°50'N	116°26'W	272.175 MHz

Cautions and Warnings!

For pilots operating in the vicinity of R-2508 Complex Refueling areas:

1. **Always use the "See-and-Avoid" principle throughout your refueling operations.**
2. Tanker areas are **NOT exclusive-use airspace** and are **NOT protected** from other Complex aircraft operating in the area.
3. **If you see a tanker formation that is not part of your operation, avoid the formation by at least 2,000 feet vertically and 5 miles horizontally.** This distance is used to reduce the risk of incident due to emergency breakaways or maneuvers by the tanker formation.
4. Request the status of refueling areas from High Desert TRACON (JOSHUA).
5. No radar coverage is available below 10,000 feet mean sea level (MSL) for the Shoshone and Coaldale refueling areas.

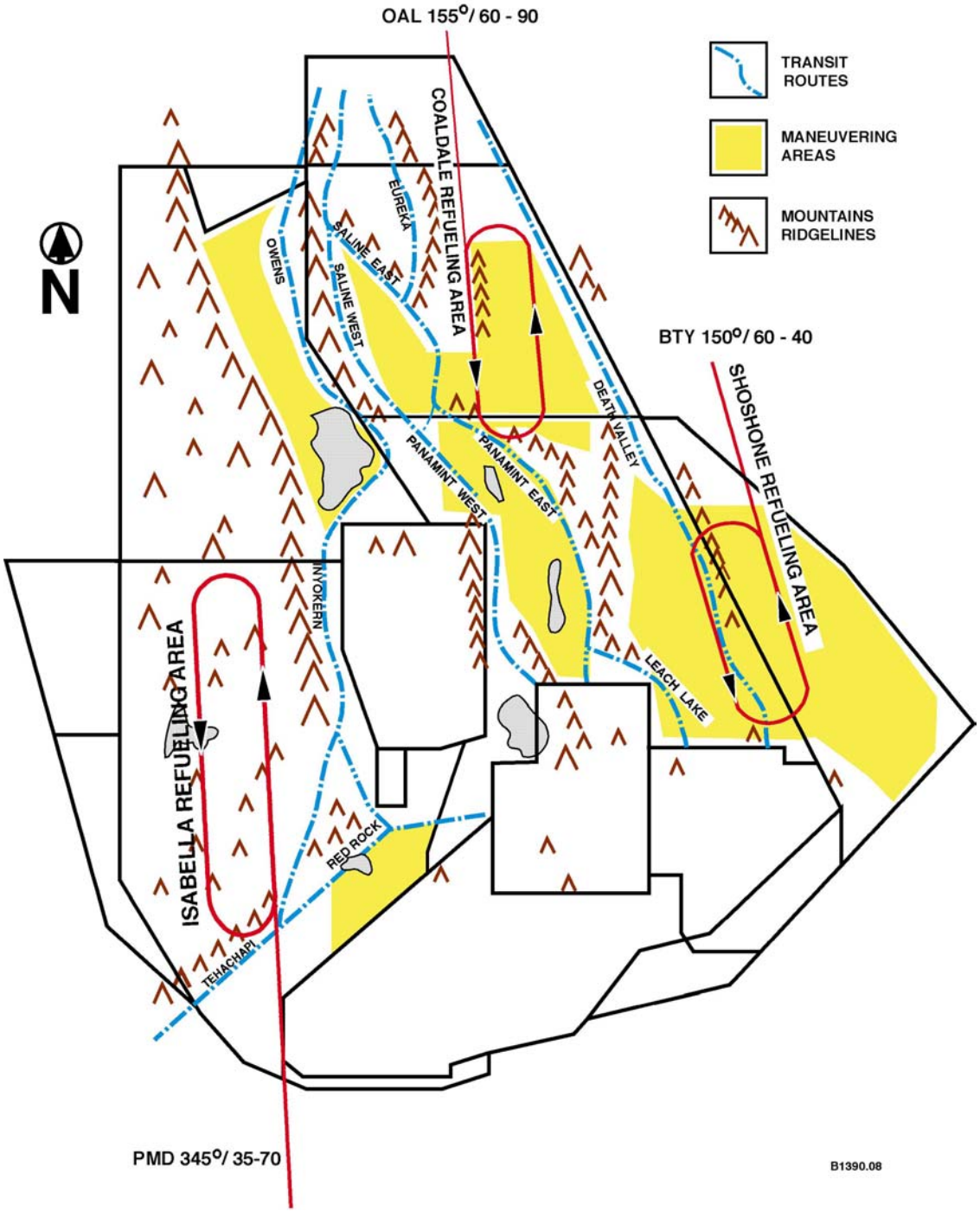

Figure 2-4. *Refueling and Maneuvering Area's and Transit Routes in the R-2508 Complex.*

2.5.5 Supersonic Operations

Supersonic flight is authorized in the R-2515 High-Altitude and Black Mountain supersonic corridors (see Figure 2-5) when properly scheduled.

Supersonic flight is NOT normally authorized in R-2508, MOAs, or ATCAAs. CCB approval is required in advance.

Supersonic operations can be conducted in other internal restricted areas after receiving specific approval from the appropriate scheduling agency.

To schedule the supersonic corridors, contact the Edwards Resource Operations Center at DSN: 527-3940 / 4110.

All supersonic flight must be reported as directed by appropriate military service directives (OPNAVINST 3710.7, AFI 13-201).

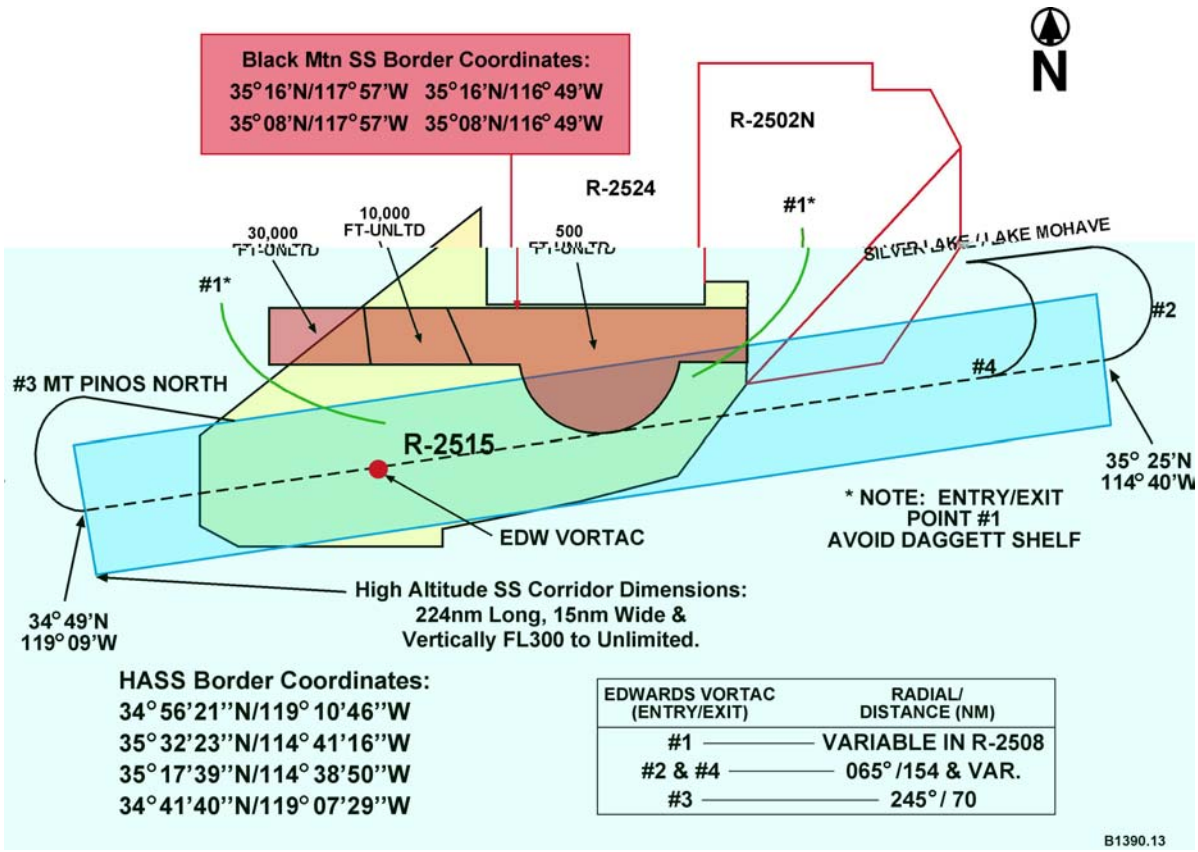

Figure 2-5. *R-2515 Supersonic Corridors*

2.5.6 Tow Operations

Three categories of towed items are allowed within the R-2508 Complex:

(a) Items towed within 500 feet of tow aircraft

(b) Items towed between 500 feet and 1 statute mile from tow aircraft

(c) Items towed more than 1 statute mile from tow aircraft

Regardless of the category, all tow operations will be scheduled with CCF. In addition, the pilot will notify the controlling agency on initial contact of intent to conduct tow operations.

The following rules apply to tow operations:

1. Tow operations are only authorized in VMC conditions. Operations involving categories (a) and (b) require advance notice to the CCF IAW Special Activities scheduling procedures. **Night tow operations are limited to category (a) only**.
2. Category (b) tow operations are considered an additional hazard in the MOAs/ATCAAs and must use a chase aircraft. The chase aircraft must remain close enough to the towed item to provide a visual cue for non-participating aircraft that the towed object is between the chase and towing aircraft.
3. Category (c) tow operations (or category (b) operations where it is not feasible to use a chase aircraft) **must** be approved by a Complex Control Board-recognized Safety Review Board (SRB) or Executive Review Board (ERB) (i.e., AFFTC, NAWCWD, or NASA). Following the SRB/ERB assessment, the project must obtain CCB approval prior to flight. **These operations also require coordination with CCF at least 24 hours prior to the mission being flown.**

WARNING! **If the towed object is inadvertently released, the towing aircraft shall notify JOSHUA immediately. User should consider avoiding populated areas within the Complex while conducting tow operations.**

2.5.7 Airborne Radar Unit (ARU) and Airborne Warning and Control Systems (AWACS) Operations

Air Force AWACS will coordinate procedures and contingency plans with participating military units to ensure compliance by mission aircraft. Navy ARUs will coordinate their procedures and contingency plans with responsible Carrier Air Wing Strike Leader.

Responsibilities for both ARUs and AWACS include:

1. Provide mission frequency to JOSHUA that enables direct contact between JOSHUA and mission aircraft.
2. Obtain orbit airspace to provide service to an exercise taking place within the R-2508 Complex. Aircrews shall:
   - Coordinate with CCF for orbits within R-2508

- Receive a Work Area Clearance from JOSHUA for orbits inside the R-2508 Complex
- Coordinate with CCF and appropriate ARTCC for orbits outside the R-2508 Complex

3. Advise JOSHUA as soon as possible when an aircraft declares an emergency or encounters any unusual situation that requires any form of special handling. Follow these procedures:
   - Initiate a radar correlation check 9Air Force AWACS).
   - Maintain communications with JOSHUA on the appropriate ATC frequency or a pre-coordinated mission/tactical frequency (AWACS/ARU).
   - Do not provide air traffic control services to mission aircraft (e.g., IFR services, ATC clearances, etc.) [AWACS/ARU].
   - Provide coordination for squawks and call signs for inbound/outbound mission aircraft [AWACS/ARU]. However, do not change the Mode 3 discrete beacon code assignment for mission aircraft working inside the R-2508 Complex. Flight split-off aircraft not assigned a Mode 3 discrete beacon code by JOSHUA may be instructed to squawk a non-discrete beacon code while in assigned mission airspace.
   - Provide mission aircraft mission support.
   - Provide JOSHUA with:
   - A 5-minute advance notice of mission completion
   - Call sign of the first element that has completed mission operations in the R-2508 Complex
   - Position of the last mission element that will exit the R-2508 Complex
   - When the mission or a mission element(s) is/are completed, advise mission aircrew(s) to remain within mission-assigned airspace and contact JOSHUA on the ATC frequency.

Responsibilities for JOSHUA are to:

1. Perform all coordination with the appropriate ARTCC for inbound/outbound mission aircraft.
2. Issue a Work Area Clearance and assign a Mode 3 discrete beacon code to mission aircraft.
3. Forward mission aircraft radar data information to the AWACS/ARU to include:
   - Aircraft identification
   - Assigned discrete beacon code
4. Inactively monitor the AWACS/ARU mission/tactical frequency.
5. Provide traffic advisories, traffic alerts on non-mission aircraft operating in the R-2508 Complex, and boundary advisories on the mission/tactical frequency.

6. **NOT** provide advisories between mission aircraft.
7. Issue departure clearances and perform all associated ATC coordination with the appropriate ARTCC.

2.6 Scheduling Large-Scale Exercises

Large-scale exercises are those involving multiple-day/multiple-range activities, more than 10 participating aircraft, and/or are very complex. All large-scale exercises using the R-2508 Complex must coordinate with CCF **at least 30 days in advance** of intended operations.

Depending on the complexity, duration, and size of the exercise area, exercise planners should expect to meet one or more of the following conditions, as determined by the CCB:

1. Provide scenario of exercise plan and airspace requirements to CCF and TRACON by message, e-mail, or fax.

   Message traffic should be addressed to:

   2508CCF EDWARDS AFB CA//

   FAA HIGH DESERT TRACON EDWARDS AFB CA//
2. Coordinate in advance with FAA (ARTCCs, TRACON), Military Representatives to FAA, CCF, and/or other special-use airspace agencies.
3. Set up a mission briefing for all participating aircrews.
4. Generate an operations plan covering detailed operating procedures to which the range agency and CCF will have direct input.
5. Serve as special frequency management liaison.
6. Brief CCB for approval or stipulations for approval, if required by CCB.

NOTE: Mission planners are ***strongly encouraged*** to take advantage of CCFs extensive knowledge and experience in coordinating complex, large-scale exercises. CCF can provide users with coordination requirements, FAA ATC and flight planning requirements and recommendations to achieve overall mission success. Early contact with CCF can prevent major changes to exercise plans.

Most large-scale exercises require the use of airspace/land ranges managed by various members of the Joint Policy and Planning Board (JPPB). Planners must formulate the desired exercise plan along with alternative options as early as possible in order to coordinate mission requirements and negotiate exercise approval.

Most airspace coordination may be handled through the agencies listed in Section 2.3. The following list of organizations that may require separate or additional coordination:

Agency	DSN	Commercial
Air Force Representative to FAA Western-Pacific Region	**833-0481**	**(310) 725-3900**
Navy Representative to FAA Western-Pacific Region	**833-1247**	**(310) 725-3910**
Army Representative to FAA Western-Pacific Region	**833-1250**	**(310) 725-3908**
Los Angeles ARTCC Military Liaison	**640-1290**	**(661) 265-8280**
Oakland ARTCC Military Liaison	**730-1595**	**(510) 745-3334**
High Desert TRACON	**527-2023**	**(661) 277-2023**

2.7 Operating Remotely Operated Aircraft (ROA)

To receive approval for Remotely Operated Aircraft (ROA, which also include UAVs and UCAVs) operations in the R-2508 Complex, submit a detailed proposal to the CCB via the CCF and the appropriate Safety Review Board (SRB) or Executive Review Board (ERB) listed in subsection 2.7.2.

All ROA operations within shared-use airspace require CCB approval that is not delegated.

The proposal should attempt to follow the basic guidelines below that are already approved by the CCB, but each program will be evaluated on a case-by-case basis and approval is contingent upon airworthiness, system maturity, and/or flight safety mitigators (e.g., flight termination system, chase, direct operator control with good comm. links to TRACON, etc.).

This section discusses CCB guidelines that will help ensure that you submit a thorough proposal in enough time for adequate review and advance coordination. If the operations are highly complex or if the proposal deviates significantly from the guidelines below, you should allow more time for coordination.

The guidelines are discussed as follows:

2.7.1 Proposal Submission Timelines

2.7.2 Safety Review

2.7.3 Scheduling and Coordination

2.7.4 Post Mission Evaluation

2.7.1 Proposal Submission Timelines

The recommended submission timelines depend on the following:

Type or Part of Program	Submittal Prior to Operations	Reason for Submittal
• Initial contact for a new program • Significant changes to an existing program	**At least 6 months**	• Coordination of Letter of Agreement (LOA)* • CCB consideration and approval
• A previously coordinated program, inactive for over 6 months	**At least 60 days**	• Coordination with CCF
• Final profile and scheduling	**At least 7 days**	• CCF will evaluate and may require schedule changes to minimize impact on other missions (see scheduling process below).
• Profile changes	**At least 3 days**	• Time to brief affected agencies. Changes not received in this time may affect airspace availability.

*LOA coordination takes at least 90 days from the original written request. The LOA depends on CCB agreement with the proposed operating procedures and the results of the Safety Review (discussed below). The LOA is usually worked concurrently with other coordination.

2.7.2 Safety Review

A CCB-authorized review organization (AFFTC, NASA Dryden SRB, or NAWCWD ERB only) will review the proposal for safety in accordance with current SRB or ERB governing instructions and applicable internal range procedures.

The reviewing organization shall, at a minimum, consider the CCB guidelines established below or provide an SRB/ERB-recommended equivalent level of safety. When submitting the proposal, address the elements and mitigation's covered in the Safety Review.

This requirement also applies to operational ROAs proposing to operate within shared-use airspace.

As a minimum, all ROAs operating in shared-use airspace are expected to carry an operable transponder with mode C capability and have some demonstrable means of responding to JOSHUA requests for altitude and/or heading changes in a timely manner.

The Safety Review shall assess the following:

1. Requirement for fight termination system and written procedures addressing when it will be used. Procedures shall address at least the following:
   - Need for redundancy in transponders and flight termination system (RCC 319-92, 313-94)
   - Description of basic conditions that may result in flight termination (e.g., loss of signal, specific data link command, flight plan deviation, etc.)
   - Methodology for termination (e.g., break-apart, parachute recovery, etc.)
   - Determination that footprint from flight termination will not impact no-fly areas (see specific flight plan profile guidelines)
2. Specific flight plan (path, altitude, and speed) profiles. The profiles should:
   - Identify all affected airspace.
   - Describe methodology of controlling the ROA; e.g. man-in-the-loop, autonomous flight plan, etc.
   - Incorporate the no-fly areas (developed by CCB) to avoid direct overflight or flight termination in these areas.
   - Avoid sharp turns within 5 NM (or greater, dependent on ROAs operational limits) of the adjacent non-shared use airspace boundary. Plan for turns to be completed no less than 3 miles from the airspace boundary.
   - State those operations will remain in VMC during all flight (including chase aircraft).
   - When chase aircraft is required, it must be joined up with the ROA before leaving internal restricted areas or Class D airspace, as appropriate. If no chase aircraft, then operations may be restricted to certain airspace and/or altitude restrictions.
   - When chase aircraft is required, it must be joined up with the ROA before leaving internal restricted areas or Class D airspace, as appropriate. If no chase aircraft, then operations may be restricted to certain airspace and/or altitude restrictions.
   - Ensure that the minimum altitudes are not less than those required by this Handbook and the FARs.
   - State your willingness to operate in a “see-and-avoid” environment. Requests for exclusive use operations will normally **not** be approved in shared-use airspace (see guidance in this Handbook).
   - State operational constraints (i.e., distance from control vehicle, speeds, rate of turn, and rate of climb or descent).
   - Include procedures to change heading or altitude for traffic conflict or weather and the proposed coordination process (include timeliness of response to requested action). It is normally expected that JOSHUA can directly communicate with the

ROA controller in such a manner that changes in heading and/or altitude can be made in a timely manner.

NOTE: You may need to coordinate operations through a program representative located in TRACON. This capability should be addressed in the proposal.

- Describe sensor operations and coordination with OPSEC.
- State duration of flight.
- Identify departure and planned recovery location(s).

3. Chase aircraft requirement and procedures. Include:
   - Flight termination and ROA takeover guidance capabilities
   - Standoff distance from ROA
   - Operational limitations, if any, on the chase aircraft
   - Communications capabilities (with ground facilities and ATC)
   - Process for affecting control of the ROA (direct or via ground facility)
   - Join-up procedures, if not immediately after ROA is airborne
   - Chase aircraft and ROA operator briefing on Complex procedures
4. System maturity.
   - Describe prior operations or programs that may indicate the reliability of the system and data link in a similar configuration and operational scenario to that planned. An approved Airworthiness Certificate is a requirement for all proposed ROA configurations (this is a separate document from a "Certificate of Authorization"). Proof-of-concept flights should be, to the maximum extent possible, contained within internal restricted areas until basic airworthiness has been demonstrated.

     New concept and/or low systems maturity ROAs are expected to carry a flight termination system and be chased while operating within shared-use airspace, regardless of altitude. Demonstrated mature systems may be allowed to operate without chase or flight termination system throughout the shared-use airspace contingent upon the recommendation of the appropriate SRB/ERB and approval by the CCB.
   - Include contingency procedures (may be linked to flight termination) to address at least the following:
   - Loss of internal navigation
   - Loss of signal uplink
   - Loss of control of the ROA or the control link with JOSHUA
   - Signal interference (based on Spectrum Management review of proposed frequencies)

- Proposed resulting action or programmed response for deviations from the flight path. For ROAs that depend on a flight termination signal, address what happens when you are unable to initiate the abort process.
- Loss of tracking (position unknown)
- Loss of transponder (address redundancy requirements)
- Unsatisfactory performance: Does it create a safety hazard or is reliability downgraded?
- DoD or other directed requirement to RTB early (incomplete or interrupted flight plan)
- Loss of control van power; discuss redundancy of power supply to control van or backup unit for control
- FAA coordination/authorization and any operational restrictions that may exist

- Describe your basic recovery plan. Include security issues and coordinating access (see CCB/Land Management Agencies LOA). Address access to DoD lands (internal restricted areas) if this access is not pre-coordinated as part of the flight plan.
- Describe the need for or the accomplishment of the environmental assessment for the proposed activity.

2.7.3 Scheduling and Coordination

Once you receive CCB approval for your ROA operations, and a Letter of Agreement (if required) and all procedures have been finalized between the project, High Desert TRACON, and the CCB, **you must still coordinate and schedule individual operations in the appropriate airspace with the CCF and/or appropriate internal range scheduling activity.**

2.7.4 Post Mission Evaluation

Projects are encouraged to perform a post mission evaluation that discusses the benefits and/or constraints, of the R-2508 UAV/ROA safety review process, and report them to the CCB.

2.8 Flight Planning

Refer to ***DoD FLIP*** for flight plan filing requirements to land at installations located within the R-2508 Complex. All aircrews filing to land or planning to operate in the Complex must understand and operate in accordance with the R-2508 Complex concept explained in Section 3.1.2 of this Handbook.

- All scheduled operations originating outside the R-2508 Complex shall file in accordance with the following procedures unless the flight will terminate at an installation within the R-2508 Complex.

- These procedures shall be followed to ensure availability of an IFR clearance when flights are ready to RTB. Failure to comply may result in a delay in the Complex while JOSHUA attempts to obtain an IFR clearance.

Call Signs

Call signs provided to CCF for activities in the R-2508 Complex shall not exceed 7 characters/numbers and shall be the same as filed on a DD-175. Two-letter abbreviated call signs, such as BH-1 for "Bloodhound 01," will be interpreted and broadcast as "BRAVO HOTEL 01" by Air Traffic Control (ATC). Tactical call signs shall not exceed 7 characters/numbers and shall be a pronounceable word, in accordance with *DOD FLIP, General Planning (GP), Flight Plans*.

2.8.1 DD Form 175, Military Flight Plan

To file IFR to/from R-2508 Complex (see below):

1. File Two IFR flight plans or legs, one to enter and one to depart the R-2508 Complex.
2. To ensure proper flight plan processing for JOSHUA, **flights not intending to land at an airport within the R-2508 Complex should file "R-2508" as the destination and point of departure for the return flight plan/leg.**

DATE	AIRCRAFT CALL SIGN	AIRCRAFT DESIGNATION
01/01/02	TEST 01	F-22/R

TYPE FLT PLAN	TRUE AIRSPEED	POINT OF DEPARTURE	PROPOSED DEPARTURE TIME (Z)	ALTITUDE	ROUTE OF FLIGHT	TO	ETE
I	450	NFL	1900	290	OAL.. EWALD	R-2508	0+15
I	450	R-2508	2000	290	EWALD..OAL	NFL	0+15

Figure 2-6. *Sample DD Form 175, Military Flight Plan.*

3. Aircraft landing or departing from an airport within the R-2508 Complex should file that airport as the destination and/or departure point of the flight plan.
4. The point of entry/exit into R-2508 airspace should be an R-2508 Entry/Exit fix (see Figure 2-7) as listed in subsection 2.8.2. This does not preclude ATC from clearing aircraft to enter/exit other R-2508 Complex boundary locations.

NOTE: Filing a flight plan does not relieve the aircrew of the responsibility for scheduling the appropriate airspace with CCF.

For VFR flights:

1. Obtain a Work Area Clearance from JOSHUA/SPORT before conducting operations in the R-2508 Complex.
2. All Complex aircraft shall advise JOSHUA/SPORT before departing R-2508 Complex airspace.

2.8.2 R-2508 Complex Entry and Exit Points

Name	Radial / DME	Latitude	Longitude
FAANG	NLC 043º/77	36º59'59"N	118º35'03"W
EWALD	BTY 274º/71	37º12'00"N	118º07'45"W
HAMBO	BTY 283º/50	37º12'00"N	117º38'30"W
HARNE	BTY 274º/22	36º55'30"N	117º10'33"W
JENID	BTY 175º/27	36º21'30"N	116º51'03"W
HEINY	BTY 154º/58	35º51'30"N	116º33'00"W
DAGGS	EDW 076º/38	34º58'08"N	116º57'43"W
ROSIE	PMD 317º/15	34º51'09"N	118º12'23"W
CHADS	*NID 226º/51	35º15'00"N	118º35'00"W
ROMOF	*NID 267º/44	35º49'45"N	118º35'00"W
SWOOP	NLC 075º/67	36º19'00"N	118º35'05"W
KIOTE	NLC 062º/68	36º34'20"N	118º35'24"W
MITEL	CZQ 086º/61	36º41'04"N	118º35'03"W

***NID TACAN is unmonitored when China Lake airfield is closed.**

FAA published Entry/Exit points.

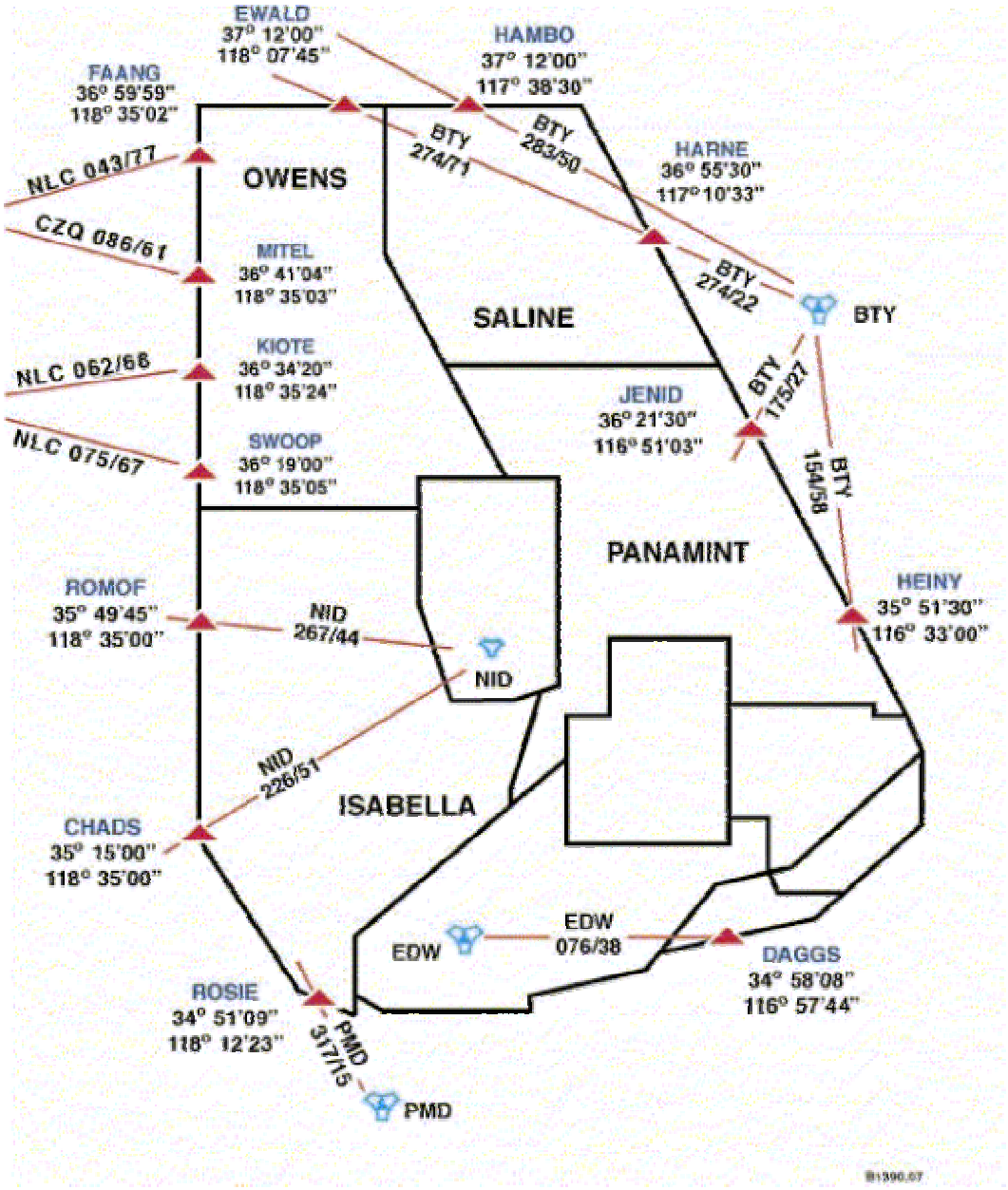

Figure 2-7. *R-2508 Complex Entry/Exit Points.*