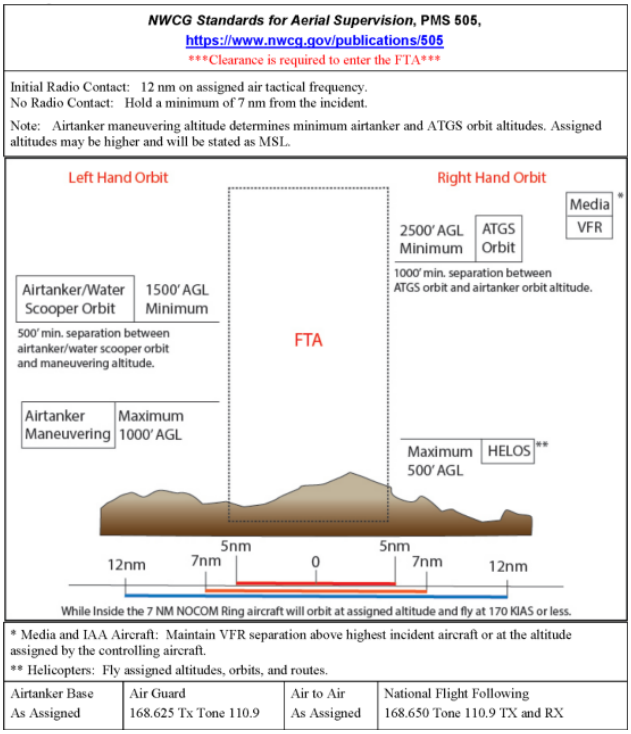
CAL FIRE & United States Forest Service
Fire Traffic Area (FTA) Review

The Fire Traffic Area (FTA), as utilized today, was solidified after the fatal Mid-Air Collision that occurred on the Bus Fire in 2001. Its primary function is to serve as an interagency air space management tool establishing standard communication protocols. It is defined in the National Wildland Fire Coordinating Group (NWCG) Standards for Aerial Supervision as: "A section of airspace with a five nautical mile (nm) radius from the center point of an incident during fire suppression operations". It is important to remember that the FTA exists over an incident regardless of if aircraft are at scene. It is the Interagency standard for Aerial Firefighting in California and is CAL FIRE policy that shall be adhered to.



Initial Communication Ring

A 12 nm ring extends from the center point of the incident. At or before that 12 nm ring, an aircraft will contact the controlling aircraft. This may be an Air Tactical Group Supervisor (ATGS), or it may be the first firefighting aircraft that arrives at the scene. Remember this initial contact is a request to proceed. The controlling aircraft will provide a scripted brief containing instructions that must be acknowledged, read back, and complied with. If a responding aerial resource is unclear if aircraft are at the scene, 12 and 7 nm blind calls shall be initiated.

No Communication Ring (NOCOM Ring)

A 7 nm ring from the center point of the incident. The 7 nm ring or NOCOM ring shall not be crossed if the controlling aircraft has not granted clearance. Aircraft not cleared in will pick up an orbit at 7 nm, announce location, monitor frequencies, and be aware of inbound or outbound aircraft.

CAL FIRE & United States Forest Service
Fire Traffic Area (FTA) Review

The 3 C's of FTA Communication:

1. **Communication:** Inbound Aircraft will establish communication with the controlling aircraft.
2. **Clearance:** Inbound aircraft will receive clearance from the controlling aircraft. The inbound pilot or tasked crew member will acknowledge receipt of clearance or hold out until clearance is received and understood. Upon clearance, inbound aircraft will receive an initial brief with five components that must be given every time. If one of these five components is missing, the inbound aircraft shall request clarification.
    - Altimeter setting
    - FTA clearance altitude
    - Altitude of Aerial Supervision
    - Altitudes of other aircraft
    - Hazards

    Other examples of required clearances are as follows:
    - Clearance to lift (pertains to helicopters inside the FTA/TFR)
    - Cleared across a virtual fence
    - Deviation from altitude or work location
    - Right-hand orbit
3. **Comply:** Inbound aircraft shall comply with the clearance instructions. If unable to comply with the clearance instructions, inbound aircraft shall hold out until clearance is amended and understood.

Discussion points:

- If a responding aerial resource is unclear if aircraft are at scene 12 nm and 7 nm blind calls shall be initiated.
- What is a controlling aircraft and what are they responsible for?
- At what altitude should media aircraft be at?
- If you are the first aircraft at scene, it is your responsibility to establish the FTA and clear in other aircraft?
- If you know that multiple aircraft are responding, consider organizing the airspace and developing a plan as opposed to being unavailable due to being low level in a dip site. A few minutes of airspace organization and planning can make an operation effective, efficient, and safe.
- Practice blind calls so they are consistent, complete, and concise.
- If you are the first aircraft at the scene and not a qualified Aerial Supervisor, be prepared to clear in the aerial supervisor and other firefighting aircraft as soon as it is safe to provide clearance.

CAL FIRE & United States Forest Service
Fire Traffic Area (FTA) Review

FTA Communications

Incident-Assigned Frequencies

All firefighting aircraft shall be given incident-assigned frequencies by their State, Federal, or Local dispatch centers. The standard for State and Federal firefighting agencies is an FC106. Crews may also attain frequencies from ICS205, or ICS220 on extended attack incidents. Flight Crews must either receive a paper copy or an electronic copy of the aforementioned forms or have all the information read to them over the radio.

FC106 Example

INCIDENT NAME*	Kelly			ORDER #	LNU-19575			
LOCATION								
DESCRIPTIVE LOCATION*	Annapolis							
SECTION	6	TOWNSHIP	10N	RANGE	13W	MERIDIAN	MD	
LATITUDE	38° 44.58			LONGITUDE	-123° 21.01			
	BASE		BEARING		DISTANCE			
FREQUENCIES								
AIR TACTICS (AIR TO AIR FM)*	AIR TAC 22	151.2875			TONE	1	110.9	
VICTOR (AIR TO AIR AM)*	127.3250							
A/G (FM)*	CDF A/G 2	159.2625			TONE	16	192.8	
PRIMARY GROUND TAC (FM)*	CDF TAC 6	151.3250						
SECONDARY GROUND TAC (FM)*								
COMMAND (FM)*	LNU WEST	rx:151.4600 tx:159.39000			TONE	13	141.3	
OTHER AIRCRAFT								
HAZARDS								
INITIAL POINTS								
NAME		LAT/ LON			ALTITUDE			

If you are given incomplete FC106 information, it is your responsibility to request missing frequencies before responding. Do not respond to an emergency incident without all of the required information as you will be creating an unsafe situation for flight crews.

ICS205 Example

ICS 205 - INCIDENT RADIO COMMUNICATIONS PLAN								CONTROLLED UNCLASSIFIED INFORMATION//BASIC
1. Incident Name: FAIRVIEW INCIDENT Incident Channels			2. Date/Time Prepared Date: 09/06/2022 Time: 1930		3. Operational Period: Date From: 09/07/22 Time From: 0700		Date To: 09/08/22 Time To: 0700	
4. Communications								
Ch#	Function	Name	Assigned To	Rx Freq	Rx Tone	Tx Freq	Tx Tone	Notes
1	COMMAND	CDF C3 T8	ALL DIVS	151.3400	103.5	159.3450	103.5 (T8)	TONE 8 - PINE COVE
2								
3								
4								
5	TACTICAL	CDF T26	DIV A	159.2925	192.8	159.2925	192.8 (T16)	
6	TACTICAL	CDF T27	DIV B	159.3075	192.8	159.3075	192.8 (T16)	
7	TACTICAL	CDF T28	DIV D	151.1825	192.8	151.1825	192.8 (T16)	
8	TACTICAL	VFIRE 25	BRANCH III	154.2875	156.7	154.2875	156.7 (T6)	
9	TACTICAL	VFIRE 26	BRANCH V	154.3025	156.7	154.3025	156.7 (T6)	
10	TACTICAL	VTAC11	CONTINGENCY	151.1375	156.7	151.1375	156.7 (T6)	
11	TACTICAL	VTAC12	UNASSIGNED	154.4525	156.7	154.4525	156.7 (T6)	
12								
13								
14	AIR TO GROUND	CDF T20	ALL DIVS	159.3750	192.8	159.3750	192.8 (T16)	AIR TO GROUND
15	MEDICAL	CALCORD	ALL DIVS	156.075	156.7	156.075	156.7 (T6)	
16	AIR GUARD	GUARD	ALL DIVS	168.625		168.625	110.9 (T1)	EMERGENCY
17								
18								
19								
20	AIR GUARD	GUARD	ALL DIVS	168.625		168.625	110.9 (T1)	EMERGENCY
5. Special Instructions								
6. Prepared by (Communications Unit Leader): Name:						Signature:		
ICS 205 - CONTROLLED UNCLASSIFIED INFORMATION//BASIC			NIMS IAP			Date/Time: 09/06/2022 1930		

ICS220 example

AIR OPERATIONS SUMMARY ICS-220

Time Prepared	Date Prepared	Prepared By
1400	Wednesday, September 7, 2022	Niko Matteoli

Incident Name / Number	Sunrise	Startup	Cutoff	Sunset	Shutdown	Operational Period - Date	Operational Period - Time
MILL / CA-SKU-007568	644	714	1900	1930	2000	Thursday September 8, 2022	0700-2100

General Remarks, Safety Notes, Hazards, Air Operations Special Equipment, etc.

TRACK ALL DIPSITE LOCATIONS / NUMBER OF DIPS / GALLONS TAKEN.
TRACK ALL DROP LOCATIONS / NUMBER OF DROPS / GALLONS DROPPED
All GPS DATA TO BE COLLECTED IN DEGREES, MINUTES, DECIMAL MINUTES FORMAT.

AVOID Aerial Application of Retardant / Foam / Agent within 300' of Waterways, Bodies of Water, etc.
If Retardant / Foam / Agent is Dropped Within These Areas Immediately Notify the AOBD and Provide the Following Information: Lat / Long, Estimated Number of Gallons and a Map Detailing The Area.

Your Sunrise and Sunset info has not been updated for the current Op period. Update

Helibase Information
Name Weed
Latitude 41 28.85
Longitude 122 27.27

Name Gazelle MRB
Latitude 41 30.04
Longitude 122 31.66
(use page 2 if needed)

TFR Information
Request # A-92
Polygon: NM
Altitude: 10,000 MSL
Centerpoint: Lat / Long
NOTAMS: 2/1609
Frequency 123.1750
http://tfr.faa.gov/tfr2/list.html

Rescue Ship Information

	Day Hoist	Night Hoist
Name	G840	G840
Phone		
Make/Model	UH-60	UH-60
Location	Weed Airport	Weed Airport

Request Procedure for These Aircraft:
Mountain Communications
See Medical Plan For Additional Info

Frequencies	Rx	Tone	Tx	Tone	AM / FM
COMMAND- CDF C10	151.1900	(T8) 103.5	159.2250	OST	FM
AIR TACTICS	166.6000		166.6000		FM
AIR/AIR ROTOR VIC/TFR	123.1750		123.1750		AM
FW BRIEFING	118.0250		126.7750		AM
RW BRIEFING	126.7750		126.7750		AM
A/G COMMAND	159.3450	(T16) 192.8	159.3450	(T16) 192.8	FM
A/G TACTICAL	169.1500		169.1500		FM
TOLC	123.0250		123.0250		AM
DECK	168.3500		168.3500		FM
CALCORD - MEDICAL	156.0750	156.7 (6)	156.0750	156.7 (6)	FM
AIRGUARD - Emergency Only	168.6250	110.9 (1)	168.6250		FM

Position	Name	Phone	Trainee	Phone
AOBD				
AOBD				
ASGS				
HBM				
HLCO				
HLCO				
AAML				

HELICOPTERS (Use page 2 if Needed)

FAA #	Type	Make/Model	Helibase	Avail	Start	Remarks
1SH	I	UH-60	Weed	0800	0830	LL
3TW	I	UH-60	Weed	0800	0830	LL
9PJ	I	UH-60	Weed	0800	0830	LL
5PG	I	UH-60	Weed	0800	0830	LL
6PG	I	UH-60	Weed	0800	0830	LL
3HT	I	S-64	Weed	0800	0830	Tank
CNU	II	B 212HP	Weed	0800	0830	LL, Standard

FAA #	Type	Make/Model	Helibase	Avail	Start	Remarks
2HS	III	AS350 B3	Weed	0800	0830	Recon
50R	III	AS350 B3	Weed	0800	0830	Helco
4TV	III	AS350 B3	Weed	0800	0830	Recon

FIXED WING (Use Page 2 if Needed)

FAA #	Type	Make/Model	Base	Avail	Start	Remarks

FAA #	Type	Make/Model	Base	Avail	Start	Remarks

Required Blind Call Frequencies

For initial and extended attack fires with no Temporary Flight Restriction (TFR), CAL FIRE and Region 5 USFS require 12 nm and 7 nm blind calls and a "request for clearance" from the controlling aircraft on the following frequencies in order. Deviations from the order are unacceptable and have created safety issues in the FTA.

1. FM Air Tactics
2. 122.925 (back up Air to Air)
3. AM Rotor Victor

When you're assigned to an incident that has a TFR with a TFR frequency, then the following frequencies apply:

1. TFR frequency
2. FM Air Tactics
3. 122.925

If you are unable to hail the controlling aircraft before the 7-mile NOCOM ring or before the TFR boundary, you must hold out.

Air Guard

VHF-FM 168.625 (TX Tone 110.9) has been established as the Interagency emergency frequency. This frequency is permanently programmed and continuously audible in all firefighting aircraft. It shall be monitored at all times and should be used when other assigned frequencies are not working.

Authorized uses of the Air Guard frequency include:

- In-flight aircraft emergencies
- Emergency aircraft-to-aircraft communications
- Emergency communications between air and ground resources
- Dispatch contact (when the use of the designated flight following frequency does not result in positive communications)
- Initial call, recall, and redirection (divert) of aircraft when assigned frequencies fail to work

Communication Creates Situational Awareness

Situational Awareness Enhances Safety. Aerial firefighter situational awareness starts and ends with what is heard through radio traffic. While developing Situational Awareness, arguably more inputs come from your ears than your eyes. Starting with the initial dispatch, to the Report on Conditions, to the Initial Briefing from an Aerial Supervisor, and until your aircraft is back at base, aerial firefighters must process all radio traffic and ask themselves the following questions:

- How does that radio traffic affect the safety of me and my aircraft?
- How does that radio traffic affect the safety of other aircraft?
- How does that radio traffic affect the safety of crews on the ground?
- Who needs to know that information?

Options to Reduce Aircraft Saturation in FTA

It has become increasingly frequent, particularly in Southern California, to be dispatched to a wildland fire with more than the CAL FIRE "standard" number of responding aircraft (1 ATGS, 2 Air Tankers, 1-2 Helicopters). With the increase in dispatched aircraft to initial attack fires, Aerial Supervisors and responding aircraft have options to prevent saturation of the FTA. The Standards for Aerial Supervision (PMS 505) on page 85 spells out the "Common Principles of Aircraft Separation."

- Use standard aviation "see and avoid" VFR
- Utilize the appropriate air-to-air frequencies for position reporting
- Adhere to FTA procedures

In addition, some options also available for aircraft separation are Initial Points (IPs), Checkpoints, Holding Areas, ordering additional aerial supervision (Lead Plane, ASM, HLCO), not clearing in aircraft to the FTA (having them hold out in a safe area), or releasing them if they are not needed.

If you're the Aerial Supervisor, work with the Incident Commander and release aircraft for the following situations:

- Incident size and complexity can't safely support the amount of assigned aircraft
- When you direct multiple copters to drop on "targets of opportunity".
- When aircraft violate the FTA procedures and pose a risk to others.

See and Avoid – Hear and Avoid

"See and Avoid" is the most basic common principle for collision avoidance. Aircrews should actively scan in all directions looking for known and unknown aircraft. This is especially important as your aircraft or another aircraft arrives at the scene for the first time. The controlling aircraft must acknowledge visual contact of the incoming aircraft and it is strongly recommended that tankers and copters obtain a visual of one another.

A concept that is less obvious but is just as critical is "Hear and Avoid". All radio transmissions from the time of dispatch until you're back on base provide you with Situational Awareness. Actively listening to priority frequencies and evaluating them for important information will enhance your safety.

As an Initial Attack incident progresses and you're a helicopter pilot, it's important to monitor Air Tactics to know where the tankers are dropping and

exiting. If you're a tanker pilot cleared to the area of operation from the IP, and you've been monitoring the sequencing of copters and tankers ahead of you, you will be better prepared.

Discussion Points:

- A tanker is cleared to maneuver and told to exit near the copter's dip site. You're the Front Seat FC on a Copter X, what are your thoughts and considerations?
- An ATGS clears Copter 2 into the FTA to work with Copter 1. What information must Copter 2 and Copter 1 receive? What are some warning phrases to use? ("Be looking", "Use caution", "See and avoid", "Obtain visual")
- Why do Aerial Supervisors require copters to call on and off the dip and drop? (position reporting, situational awareness, status check)
- An ATGS tells your copter and another copter to hold at the fence. You just came out of the dip site, what are your plans?
- I just got cleared into an IP with four other tankers. What are your thoughts and considerations?
- Did that new copter just get cleared through my area of operation at my altitude?
- The tanker in front of me was given radio towers as a hazard during his initial brief, but I wasn't.

Crew Resource Management

Crews can employ Crew Resource Management (CRM), to optimize both crew safety and performance and operations with other aircraft within an FTA. The monitoring and cross-checking component of CRM is vital to effective and safe operations within an FTA. For example, if you hear radio transmissions intended for an aircraft that is low-level and incapable of receiving transmissions ensure that the aerial supervisor on scene knows that the transmission was missed. Additionally, if there is an immediate safety issue relay the transmission to the aircraft that missed the radio traffic if possible.

Another component of CRM that should be embraced in a FTA is Situational Awareness (SA). Situational awareness is the Knowledge and understanding of the current situation which promotes timely, relevant, and accurate assessment of operations within the FTA to facilitate decision-making. An example of the application of SA is reading terrain to identify where aircraft may be funneled or concentrated and exercising enhanced vigilance in these areas. Flight Crews should be constantly building a mental picture of where aircraft are within an FTA and where they will be in the future. This mental picture can be used to avoid other aircraft and compute which aircraft threaten their safety.

EU and CWN Base Orientation and Expectations (Onboarding)

In recent years CAL FIRE/Region Five (R5) has experienced an increase in EU and Call When Needed (CWN) aircraft. Providing Flight Crews with CAL FIRE/R5 expectations is a critical component of keeping aerial resources safe, efficient, and effective. All CAL FIRE EU aircraft will receive a base orientation and expectations from the Aviation Battalion Chief or their representative, herein referred to as onboarding. Cooperating Aircraft and their Helicopter Managers that are within a bases sphere of influence should also be onboarded. Onboarding shall take place before the contracted aircraft responds to an incident. Keep in mind that not all Helicopter Managers are from R5. Every attempt should be made to reach out to Flight Crews and their managers to ensure they understand CAL FIRE/R5 expectations. For example, 122.925 is not used out of region and many EU Type I copters are unaware that CAL FIRE requires all aircraft to monitor 122.925 (USFS considers monitoring 122.925 as a best practice).

Contracted/Cooperating aircraft to be onboarded:

1. CAL FIRE Contracts
2. USFS
3. Local Government
4. BLM
5. CHP/Local LE
6. USCG

Items to cover during onboarding:

1. Fire Traffic Area
    a. 7 NM NOCOM Ring
    b. Operational expectations
    c. Scripts
    d. See avoid/hear avoid
    e. 3 C's of communication
    f. Frequencies
        i. Air Tactics
        ii. Rotor Victor
        iii. 122.925
        iv. Air to Ground
        v. Command
        vi. Guard
        vii. Explain the use of 122.925.
    g. Holding out procedures
    h. Congested airspace options

2. Dispatch Procedures: Include when and how to lift if the aircraft is within the FTA at the time of dispatch i.e., the aircraft is based within the 7NM NOCOM Ring.
3. FC 106/ eFC106 procedures.
4. Requirements of an I.A. Carded Aircraft
5. Local Hazards
6. Local Maps
7. Important contacts and phone numbers
8. SAFECOM procedures

Onboarding resources at the beginning of the season will keep everyone on the same page and identify any questions in a low stress environment as opposed to over an incident.