

ARMY, MARINE CORPS, NAVY, AIR FORCE



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TST

***MULTI-SERVICE TACTICS,
TECHNIQUES, AND
PROCEDURES FOR
TARGETING TIME-
SENSITIVE TARGETS***

***FM 3-60.1
MCRP 3-16D
NTTP 3-60.1
AFTTP(I) 3-2.3***

APRIL 2004

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MULTI-SERVICE TACTICS, TECHNIQUES, AND PROCEDURES

FOREWORD

This publication has been prepared under our direction for use by our respective commands and other commands as appropriate.



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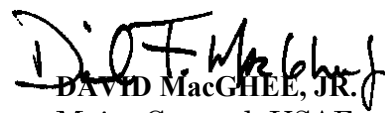
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PREFACE

1. Purpose

This publication presents multi-Service tactics, techniques and procedures (MTTP) for planning, targeting, and prosecuting time-sensitive targets (TSTs) across Service and/or functional components within a joint or combined operational environment, with other government agencies (OGAs) and/or other battlefield entities present. The doctrinal views of targeting are covered in Joint Publication (JP) 3-09, *Doctrine for Joint Fire Support*; JP 3-60, *Joint Doctrine for Targeting*; and JP 2-01.1, *Joint Tactics, Techniques, and Procedures for Intelligence Support to Targeting*. The joint targeting cycle provides the framework for successful engagement of TSTs. However, a responsive, immediate procedural cycle is required for this most demanding example of targeting. The brief discussion of the steps of a time-sensitive targeting process in JP 3-60 is not detailed enough. This MTTP assists the Services and joint or combined force commanders in developing operations, organizing teams, and clarifying responsibilities to speed the time-sensitive targeting process for prosecuting TSTs. This MTTP describes timely, effective multi-Service solutions to coordinate, deconflict, synchronize, and prosecute TSTs within any area of responsibility (AOR).

Note: TSTs are those targets of such high priority to friendly forces that the Joint Force Commander (JFC) designates them as requiring immediate response because they pose (or will soon pose) a danger to friendly force or are highly lucrative, fleeting targets of opportunity (JP 3-60).

2. Scope

This MTTP highlights recent time-sensitive targeting tactics, techniques, and procedures (TTP) commonalities; presents best practices; and includes key lessons learned from events such as Operation ALLIED FORCE (OAF), Millennium Challenge 2002, Operation ENDURING FREEDOM (OEF), and Operation IRAQI FREEDOM (OIF). It discusses the time-sensitive targeting process, multi-Service time-sensitive targeting command and control (C2), commander's guidance, planning, coordination (including procedures for a Common Geographic Reference System), organization, training, and execution procedures. This document includes component and Service time-sensitive targeting procedures, multinational considerations, time-sensitive targeting checklist samples, discusses TST attack, intelligence, surveillance and reconnaissance (ISR) assets, and collaborative tools and their associated TTPs. The *Commander, United States Air Force, Central Command (COMUSCENTAF) Counter-SCUD CONOPS and Playbook*, SECRET, releasable to Great Britain and Australia (REL GBR/AUS), is included as a historical reference for detailed multinational TST planning, training, and execution procedures.

This publication provides the JFC, the JFC operational staff, and components unclassified MTTP to coordinate, deconflict, synchronize, and prosecute TSTs within any operational area. This MTTP is not prescriptive in nature; however, it includes joint and multi-Service TTP, and provides guiding principles for time-sensitive targeting. This publication covers planning and execution at the tactical and

operational levels. Only surface TSTs (land or sea), are discussed since joint procedures are well established for engagement of time-sensitive air and subsurface targets.

Note: The terms used in this MTTP to describe the time-sensitive targeting process (Find, Fix, Track, Target, Engage, and Assess) are not in accordance with published joint doctrine found in JP 3-60, *Joint Doctrine for Targeting*, and JP 2-01.1, *Joint TTP for Intelligence Support to Targeting*. However, the described processes are consistent with the intent of existing joint doctrine.

3. Applicability

The TTP in this document are applicable to joint forces of the United States (US). The word joint “connotes activities, operations, organizations, etc., in which elements of two or more Military Departments participate” (JP 1-02). However, since this publication was developed with inputs from allies, and future operations are likely to be fought in coalitions, this publication may be equally applicable to forces of other nations fighting in coalition with the US. The duly appointed combined forces commander will determine the applicability of this publication to the forces of other nations in each particular coalition situation, but it should be clear to other nations that US forces will fight using these TTP unless the combined forces commander directs otherwise. Those using this document in coalition operations are encouraged to substitute “combined” where “joint” is used in the names of commanders and functions. Combined connotes activities, etc., “between two or more forces or agencies of two or more allies” (JP 1-02).

The target audience includes commanders and staffs at every level of the joint/combined staffs. Services can use this MTTP as a multi-Service training manual. This MTTP is intended to apply to Services conducting joint or combined operations as part of a joint or combined force, but each Service will ultimately decide the range of applicability. Finally, this MTTP is intended to be used as a reference document for the development of OGA, allied and coalition time-sensitive targeting TTP when integrating with US forces.

Services, joint commands, other joint agencies, or other entities will not use this publication to bind another Service in regards to doctrine, organization, training, materiel, leadership, personnel, or facilities. This MTTP will serve as an interim manual until the joint doctrine community can transition this information into joint doctrine.

4. Implementation Plan

Army. Upon approval and authentication, this publication incorporates the procedures contained herein into the US Army Doctrine and Training Literature Program as directed by the Commander, US Army Training and Doctrine Command (TRADOC). This publication will be distributed via electronic means only.

Marine Corps. The Marine Corps will incorporate the procedures in this publication in US Marine Corps training and doctrine publications as directed by the Commanding General, US Marine Corps Combat Development Command (MCCDC). Distribution is in accordance with the Marine Corps Publication Distribution System (MCPDS).

Marine Corps PCN: 144 000147 00

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5. User Information

a. TRADOC, MCCDC, NWDC, Headquarters Air Force Doctrine Center (AFDC), and the Air Land Sea Application Center developed this publication with the joint participation of the approving Service commands, the combatant commands, US Joint Forces Command (JFCOM), and with United Kingdom, North Atlantic Treaty Organization, and Central Intelligence Agency (CIA) participation. Per direction of the Joint Requirements Oversight Council, JFCOM will transition this publication to Joint Doctrine, and will review and update this publication as necessary.

b. This publication reflects current joint and Service doctrine, C2 organizations, facilities, personnel, responsibilities, and procedures. Changes in Service protocol, appropriately reflected in joint and Service publications, will likewise be incorporated in revisions to this document.

c. We encourage recommended changes for improving this publication. Key your comments to the specific page and paragraph and provide a rationale for each recommendation. Send comments and recommendations directly to—

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FM 3-60.1
MCRP 3-16D
NTTP 3-60.1
AFTTP(I) 3-2.3

FM 3-60.1	US Army Training and Doctrine Command Fort Monroe, VA
MCRP 3-16D	Marine Corps Combat Development Command Quantico, VA
NTTP 3-60.1	Navy Warfare Development Command Newport, RI
AFTTP(I) 3-2.3	Headquarters, Air Force Doctrine Center Maxwell Air Force Base, AL

20 April 2004

TST

MULTI-SERVICE TACTICS, TECHNIQUES, AND PROCEDURES FOR TARGETING TIME-SENSITIVE TARGETS

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EXECUTIVE SUMMARY

TST

Multi-Service Tactics, Techniques, and Procedures for Targeting Time-Sensitive Targets

Overview

Commanders and staffs must understand the elements of each Service's time-sensitive targeting capabilities and be able to synchronize, coordinate, and integrate them to support the joint force commander's requirements effectively. This publication offers a detailed explanation of the time-sensitive targeting process and provides information to effectively organize, plan, and execute time-sensitive targeting in a combined and joint environment. This document:

- Combines lessons learned and best practices from OIF, OEF, OAF, *COMUSCENTAF Counter-SCUD CONOPS and Playbook*, recent exercises including Millennium Challenge 02, and validated portions of the Air Combat Command/Combined Fleet Forces Command *Draft Joint Time-Sensitive Targets CONOPS*.
- Provides basic background information on targeting TSTs.
- Outlines the duties, responsibilities, and C2 relationships that influence time-sensitive targeting operations.
- Illustrates JFC, Joint Task Force, and components' prosecution of TSTs at the strategic, operational, and tactical levels of war.
- Describes how the Services conduct time-sensitive targeting while acting as a Combined and/or Joint Force Air, Land, Maritime or Special Operations Component Command.
- Outlines coordination and integration of TST prosecution within an operational area.
- Explains collaboration tools available to the components and provides TTP on their use.

Time-Sensitive Targeting

Chapter I defines time-sensitive targeting terms and processes used in this publication. The TTP described in this document could be used for targets other than TSTs.

Note: The terms used in this MTTP to describe the time-sensitive targeting process (Find, Fix, Track, Target, Engage, and Assess) are not in accordance with published joint doctrine found in JP 3-60, *Joint Doctrine for Targeting*, and JP 2-01.1, *Joint TTP for Intelligence Support to Targeting*. However, the described processes are consistent with the intent of existing joint doctrine.

Command and Control

Chapter II explains the C2 organizations, relationships (including multinational and other government organizations), and best practices that have evolved because of recent combat operations, exercises, and joint doctrine updates. Finally, the chapter introduces C2 architectures for TST prosecution.

Commander's Objectives and Guidance

Chapter III discusses the elements of effective Commander's Objectives and Guidance, the first and most important step in targeting TSTs in a Joint or Combined Operation. Chapter III details levels of decentralization for TST prosecution, and JFC and component interaction in the development of JFC TST guidance. It also provides sample JFC and component TST decision matrices.

TST Planning, Coordinating, Organizing, and Training

Chapter IV describes planning considerations, coordination methods, organizing and training for effective time-sensitive targeting operations. Planning considerations include commander's guidance; intelligence preparation of the battlefield; databases; intelligence; surveillance and reconnaissance (ISR); rules of engagement; collateral damage; command, control, computers, and communications architecture; and multinational operations. This chapter discusses the coordination methods and tools available for real time battlespace coordination, and includes data standards for targeting information. The organizing section provides recommendations on TST Cell manning, duties, and operations and identifies organizational relationships within each component. Chapter IV describes the training and rehearsal requirements for effective TST Cells, cross-component time-sensitive targeting operations, and lists formal training courses.

Execution Procedures

Chapter V describes execution of the time-sensitive targeting process from Chapter I, procedures as covered in Chapters II-IV, and presents three examples of cross-component time-sensitive targeting execution.

Appendices

The appendices provide details on component Service time-sensitive targeting organizations, procedures, and considerations, and include:

- Multinational considerations.
- Sample time-sensitive targeting checklists including planning and execution procedures.
- The *COMUSCENTAF Counter-SCUD CONOPS and Playbook* captures the planning, organization, TTP and lessons learned from an OIF operation dedicated to TSTs, published separately as a SECRET, REL GBR/AUS document.
- Descriptions of Service attack and ISR assets.

- Descriptions of collaboration tools and TTP for using the Joint TST Manager and the Target Data Nomination application.
- Common Geographic Reference System description, set up procedures, implementation, and uses.
- Descriptions and considerations for Joint Special Operations Areas.

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Chapter I

TIME-SENSITIVE TARGETING

1. Background and Definitions

a. This chapter defines time-sensitive targeting terms and processes used in this publication. A time-sensitive target (TST) is defined in Joint Publication (JP) 3-60, *Joint Doctrine for Targeting*, as “a target of such high priority to friendly forces that the Joint Forces Commander (JFC) designates it as requiring immediate response because it poses (or will soon pose) a danger to friendly forces, or it is a highly lucrative, fleeting target of opportunity.”

b. JP 1-02 defines TSTs as “Those targets requiring immediate response because they pose (or will soon pose) a clear and present danger to friendly forces or are highly lucrative, fleeting targets of opportunity.”

c. The tactics, techniques, and procedures (TTP) described in this document could be used for targets other than TSTs. Reactive targeting, such as targeting inside the air tasking cycle, or targeting mobile forces may also use similar processes. In addition, recovery of isolated personnel (combat search and rescue) could effectively use the time-sensitive targeting processes. Time-sensitive targeting is the most demanding example of targeting, and hence the focus of this document.

d. In Operation IRAQI FREEDOM (OIF), the term “TST” was used to refer strictly to a special class of targets that were identified and prioritized by the President, the Secretary of Defense (SECDEF), and the JFC. These identified target types were of such importance to the execution of the campaign that they were struck immediately with any asset available.

(1) There was a second tier of targets just below the priority of the JFC-identified TSTs, which were identified during execution of the current day's air tasking order (ATO) or inside component execution cycles. These second-tier targets were normally identified and prioritized at the component level and were critical to the execution of the component.

(2) High value targets (HVTs) or high payoff targets (HPTs) requiring immediate responses are identified by the JFC staff or component commanders during the target development phase of the joint targeting cycle or nominated by component commanders during execution. Subsequently, if approved, the JFC may designate them as TSTs and prioritize them in the JFC TST guidance. Nominated targets not approved by the JFC as TSTs should be prioritized by the component commanders (e.g., prioritized HPT list) in their targeting guidance to subordinates.

e. TSTs that pose a significant threat may include multiple rocket launchers, mobile long-range surface-to-air missile (SAM) systems, theater ballistic missiles (TBMs), launchers and support infrastructure, and weapons of mass destruction (WMDs). Examples of mobile high priority targets that can have a short window of vulnerability include mobile command and control (C2), leadership targets, or a terrorist vessel in international waters that is approaching territorial waters (where timeliness of response is critical).

f. Sharply reduced windows of vulnerability can make striking a TST exceedingly difficult. Time-sensitive targeting requires a process that can quickly find, fix, track, target, and rapidly task or redirect an attack asset to engage a TST successfully within the target's short window of vulnerability. In some cases, this window may be only a matter of minutes. Some scenarios have more targets than there are resources to detect or attack them; this may make it impossible to dedicate specific assets to stand ready to attack an elusive priority target, when it appears. It is vital to rapidly share pertinent information and redirect fires to expedite attacks on TSTs when detected. Commanders and their staffs must consider and assess the impact of diverting assets from their original planned target. The reverse situation may also occur, where there are more attack assets than there are locatable targets, such as during Operation ENDURING FREEDOM (OEF).

2. Time-Sensitive Targeting Process Relationship to the Joint Targeting Cycle

a. The time-sensitive targeting process is not separate from the joint targeting cycle described in JP 3-60 (Figure I-1). Ultimately, a TST is a target and, as such, its nomination, development, execution, and assessment will still take place within the framework of the joint targeting cycle.

b. Phases I through IV of the joint targeting cycle collectively produce the Commander's TST guidance, which sets the boundaries for the time-sensitive targeting process. The JFC and staff, working in coordination with the components, develop TST guidance, which includes these elements: guidance and priorities for time-sensitive targeting and identification of requirements by components; the prioritization of these TSTs; guidance for the acquisition of TSTs; and the attack of TSTs by components. The guidance and prioritization matches objectives and guidance with inputs from intelligence and operations personnel to select specific targets. The JFC should also articulate his risk tolerance sufficiently to let on-scene commanders understand his intent when TSTs require accelerated coordination. To be successful, precoordinated procedures should be in place to process TSTs quickly for attack.

c. **The Time-Sensitive Targeting Process.** Lessons learned from recent exercises and operations have proven the need for a distinct sub-process that focuses exclusively on TSTs. The time-sensitive targeting subprocess occurs within the joint targeting cycle in Phases V and VI. JP 3-60 initially addressed this with a short discussion of a "compressed decision cycle" required for successful attack of TSTs. JP 3-60 introduced a six-step time-sensitive targeting cycle with the following steps: detect, locate, identify, decide, strike, and assess (DLIDSA), but included no description of the steps. However, JP 2-01.1, *Joint TTP for Intelligence Support to Targeting, Appendix D*, describes several of the steps as they relate to intelligence support to the time-sensitive targeting process. This multi-Service TTP (MTTP) further develops this process by capturing the Services' best time-sensitive targeting practices and describes the process tested during Millennium Challenge 2002 and used during OEF and OIF. This tried and proven time-sensitive targeting process, although different than DLIDSA, is described in detail by phase, and includes the steps associated with each phase.

	Joint Targeting Cycle Phases	JP 3-60 Time-Sensitive Targeting Cycle Steps	MTTP Time-Sensitive Targeting Process Phases
Correlation	I. Commander's Objectives, Guidance, and Intent		
	II. Target Development, Validation, Nomination, and Prioritization		
	III. Capability Analysis		
	IV. Commander's Decision and Force Assignment		
	V. Mission Planning and Force Execution	DETECT LOCATE IDENTIFY DECIDE STRIKE	FIND FIX TRACK TARGET ENGAGE
	VI. Combat Assessment	ASSESS	ASSESS

Figure I-1. Time-Sensitive Targeting Process Correlation to Joint Targeting Cycle

d. There are six phases in this MTTP time-sensitive targeting process: Find, Fix, Track, Target, Engage, and Assess (F2T2EA, Figure I-2). The steps described in each phase of the time-sensitive targeting process include all of the JP 3-60 time-sensitive targeting cycle steps, as well as many additional steps. Several phases of this process, and the steps within the phases, may be accomplished in parallel. The Find, Fix, Track, and Assess Phases are intelligence, surveillance, and reconnaissance (ISR) intensive, while the Target and Engage Phases are typically labor, force, and decisionmaking intensive. As each phase of the time-sensitive targeting process is discussed in the following pages, the document will clearly identify the specific tasks that can, and in some cases must, be accomplished prior to the tactical execution of the mission. The catalyst for the time-sensitive targeting process is the JFC TST guidance and priorities.

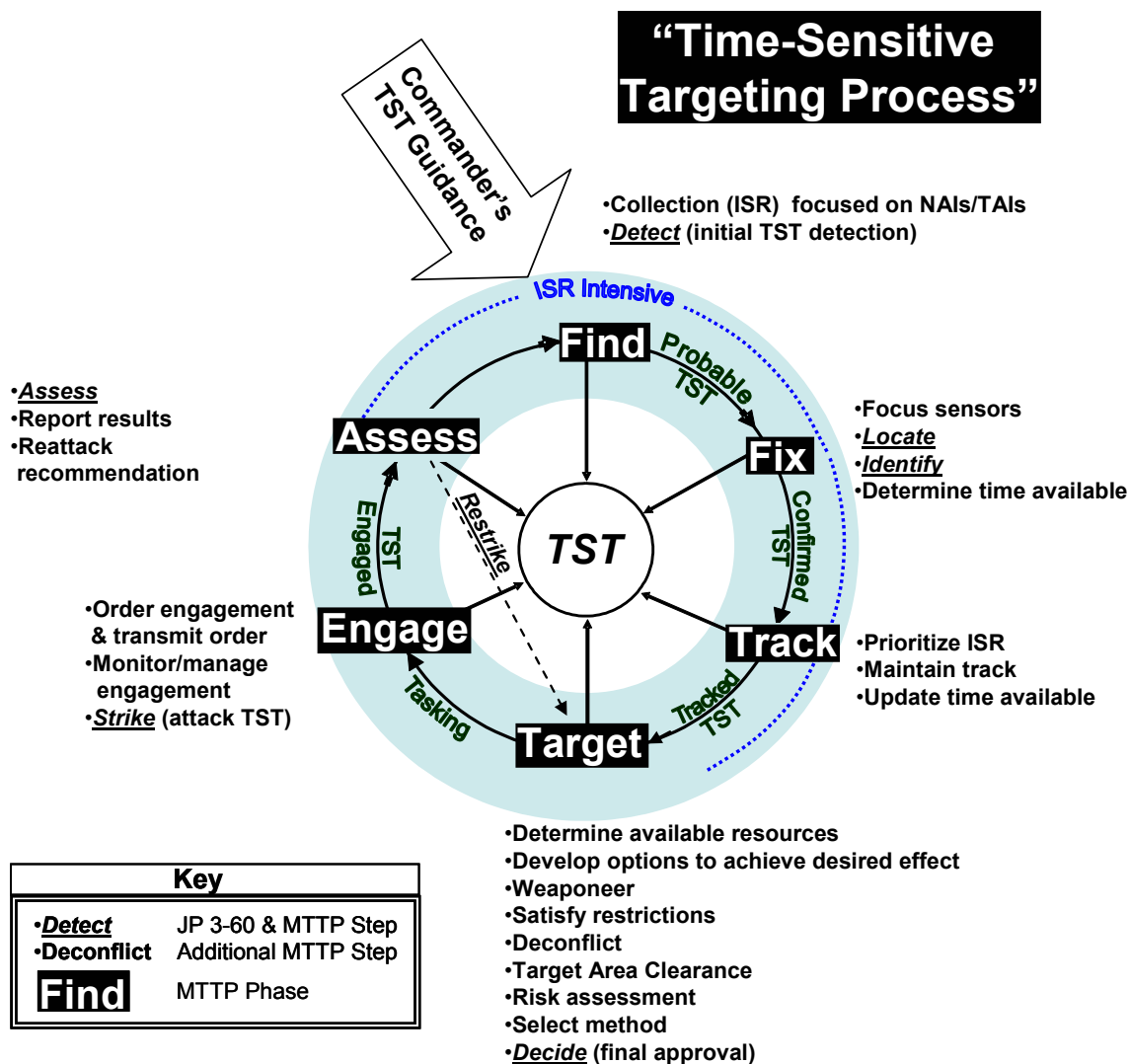


Figure I-2. Time-Sensitive Targeting Process Phases

3. Find Phase

a. INPUT to the Find Phase:

(1) Clearly designated JFC TSTs, priorities, and guidance.

(2) TST-focused intelligence preparation of the battlespace (IPB), to include identified named areas of interest (NAIs), target areas of interest (TAIs), followed by geospatial intelligence analysis and identified potential deployment sites.

(3) Collection plans based on the IPB.

b. The Find Phase involves the intelligence collection process based upon IPB. Traditional ISR, collection, and nontraditional ISR, aircraft targeting pod, radar warning receiver indication, special operation forces (SOF), etc., may provide initial detection of a potential TST. Throughout this document, the term “**sensor**” refers to both traditional and nontraditional ISR as described above.

The term “**emerging target**” will be used to describe a detection that meets sufficient criteria to be considered and developed as a potential TST. In relation to time-sensitive targeting, the criticality and time sensitivity of an emerging target and its’ probability of being a TST, is initially undetermined. Emerging targets normally require further ISR to develop, confirm, and continue the time-sensitive targeting process. During the initial Find Phase, an emerging target will be:

- (1) Designated a probable TST; continuing the time-sensitive targeting process.
- (2) Designated a non-TST as an HPT, HVT, or other type of target; executed as a component priority or passed to deliberate planning.
- (3) Examined as a potential target.
- (4) Discarded completely or entered on a no-strike list (NSL, Figure I-3, below).

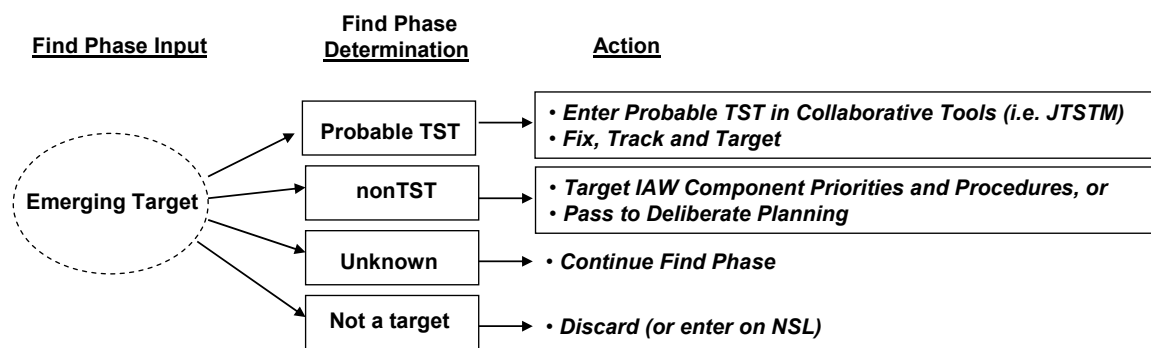


Figure I-3. Find Phase Determinations and Follow-on Actions

Note: If a TST is detected by a shooter, it may result in the Find and Fix Phases being completed nearly simultaneously without the need for traditional ISR, and the Target and Engage Phases being completed without a lengthy coordination and approval process.

c. **OUTPUT** of the Find Phase:

- (1) Probable TSTs detected and nominated for further investigation and refinement.

4. Fix Phase

a. JP 1-02 defines a fix as, “a position determined from terrestrial, electronic, or astronomical data.” The Fix Phase of the time-sensitive targeting process includes actions best accomplished while determining the location (fix) of the TST.

b. **INPUT** to the Fix Phase:

- (1) Probable TSTs.
- (2) Sensor information on target.

c. The Fix Phase begins after (or simultaneously when) probable TSTs are detected in the Find Phase. When a probable TST is initially detected, sensors are focused,

which may require additional sensors, to confirm target identification and precise location. The correlation and fusing of data confirms, identifies and locates the target and classifies it as a TST or other target (Figure I-3). Optimally, ISR assets should provide both operators and intelligence analysts with the capability to identify stationary and mobile targets, day or night, in a timely manner in all weather, all terrain, camouflage, concealment, deception (CCD) environments to the degree of accuracy required by the engaging weapon systems. Unanticipated or unplanned TSTs (i.e. highly lucrative, fleeting target not previously identified by the JFC as a TST type) may be identified during the Fix Phase, requiring JFC confirmation and classification as a TST.

d. A determination or estimation of the TST window of vulnerability frames the timeliness required for TST prosecution, and affects the required prioritization of assets and risk assessment.

e. OUTPUT of the Fix Phase:

- (1) Target identification, classification, and confirmation as a TST.
- (2) Target location accuracy refined to level required for target engagement.
- (3) Determination or estimation of TST window of vulnerability.

5. Track Phase

a. INPUT to the Track Phase:

- (1) Confirmed TST.
- (2) TST location.

b. The Track Phase begins upon validation of a TST and ends when the engagement's desired effect upon the TST is confirmed. Note that some TSTs may require continuous tracking upon initial detection as an emerging target. Sensors may be coordinated to maintain situational awareness (SA) or track continuity on TSTs. TST windows of vulnerability should be updated when warranted. Based on JFC guidance and objectives, relative priorities of ISR requirements are determined. If track continuity is lost, the Fix Phase will likely have to be reaccomplished (and potentially the Find Phase as well).

c. OUTPUT of the Track Phase:

- (1) Track continuity maintained on a TST by appropriate sensor or combination of sensors.
- (2) Sensor prioritization scheme.
- (3) Updates to TST window of vulnerability.

6. Target Phase

a. INPUT to the Target Phase:

- (1) Identified, classified, located, and prioritized TST.
- (2) Restrictions: Collateral damage (CD) guidance, WMD consequences of execution (COE), rules of engagement (ROE), law of armed conflict (LOAC), NSL, and

restricted target list (RTL), component boundaries, fire support coordinating measures (FSCMs), etc.

(3)SA on available attack assets from all components.

b. The Target Phase begins with target validation, i.e., operations personnel ensure that the TST complies with guidance, LOAC, and ROE, and is not otherwise restricted. The Target Phase of the time-sensitive targeting process matches available attack and sensor assets against the desired effect. Restrictions and deconfliction are resolved, and a risk assessment is performed. Weapon-target pairing (WTP) and engagement options are formulated, a recommendation is nominated, a TST attack option is selected, and combat assessment (CA) requirements are submitted. The Target Phase can be a time consuming phase due to the large number of requirements to satisfy. Target Phase actions can be initiated and/or completed in parallel with previous phases to enable timely decisions.

c. OUTPUT of the Target Phase:

(1)Desired effect validated.

(2)Target data finalized in format useable by shooter.

(3)Asset deconfliction and target area clearance considerations.

(4)Target execution approval (decision) in accordance with (IAW) JFC and component commander guidance.

(5)CA collection requirements submitted.

(6)COE prediction/assessment for WMD TSTs.

7. Engage Phase

a. INPUT to the Engage Phase:

(1)Target approval decision and selected engagement option.

b. During the Engage Phase, the TST engagement is ordered and transmitted to the selected weapon system. Engagement orders must be transmitted to, received by, and understood by the shooter. The engagement is managed and monitored by the engaging component and the output is the actual target engagement.

c. OUTPUT of the Engage Phase:

(1)Issuing and passing of the engagement order.

(2)Target attack via lethal or nonlethal methods.

(3)Engagement direction and control.

8. Assess Phase

a. INPUT to the Assess Phase:

(1)Post-strike CA requests matched against desired lethal or nonlethal effects.

b. During the Assess Phase the collection of information about the results of the TST engagement is conducted to determine whether the objectives or desired effects have been achieved and, for WMD TSTs, if there has been a WMD release. Assessments

of TST engagements are conducted to provide quick results and to allow for expeditious reattack recommendations, and therefore likely will not be as rigorous as traditional CAs.

c. OUTPUT of the Assess Phase:

(1) Estimated or confirmed engagement results to decision makers and the deliberate targeting process in a timely manner.

(2) Reattack (restrike) recommendation.

(3) Friendly force warning of WMD, if applicable.

Chapter II

COMMAND AND CONTROL

1. Introduction

a. This chapter explains the C2 organizations, relationships, and best practices that have evolved because of recent combat operations, exercises, and joint doctrine updates. Examples of suboptimal C2 constructs are also provided to illustrate key lessons learned.

b. Preestablished and well-rehearsed C2 procedures are essential to the engagement of TSTs within their window of vulnerability. Beginning with the JFC guidance on what constitutes a TST within the operational area, levels of acceptable risk are established and specific guidance is disseminated to joint force component commands. Joint force headquarters (HQ) elements and components prosecute TSTs within their JFC-designated operating areas IAW priorities established by the JFC. C2 coordination measures establish the parameters that are necessary to engage targets successfully across component boundaries.

c. Time is saved in time-sensitive targeting by clear guidance on what constitutes a TST, conducting detailed planning and prior coordination between joint/combined forces, a thorough IPB, employment of interoperable command, control, communications, computers, and intelligence (C4I) systems, and rehearsing the established process on these systems.

d. Component TST Responsibilities.

(1)The JFC may establish supported/supporting relationship between components to facilitate operations. Component commanders are responsible for prosecuting those TSTs located within their own operating areas using available assets. A component commander may request support from another component. The *supported* component commander remains responsible for deconfliction of fires and maneuver within the battlespace and for transferring or maintaining sensor TST data, including positive identification (PID) if available, for the *supporting* commander tasked with TST engagement. Procedures should allow for rapid hand over of the mission tasking to another component if one component cannot attack a TST due to a constraint such as reloading, weather, range, or CD limitations.

(2)Components should always inform the JFC when a TST is identified and when executing TST attacks, particularly when a TST might be engaged more quickly by another component's assets. The supported component is responsible for reporting results to support BDA analysis and reattack recommendations. The JFC maintains SA on all potential TST prosecutions and monitors, arbitrates, and coordinates issues that may arise in cross-component actions.

e. In order to prosecute TSTs successfully, the JFC may establish a joint fires element (JFE) within the J-3 joint operations center (JOC) to plan fires both above and below the JFC. To focus on time-sensitive targeting processes, this MTTP refers to the personnel performing the TST coordination function at the JFC level as a TST coordination element (TCE), which may or may not be resident within a JOC and/or JFE. Ideally, the TCE would provide time-sensitive targeting oversight, coordinate ongoing time-sensitive targeting operations, provide recommendations to the JFC on

adjudicating or arbitrating component, OGA, and other battlefield entity time-sensitive targeting issues, and appoint a dedicated execution agent to effect coordination of ongoing time-sensitive targeting events. These TCE personnel are the single point of contact at the JFC level for any time-sensitive targeting related component or OGA activities or questions. During OIF and OEF, a precedent was established in that both operations featured a JOC-level TCE. The JFC may also elect to delegate fires coordination authority to a functional component or components.

f. TCE functions include:

(1) Assisting the J-2 and Joint Intelligence Center (JIC) development of HVTs and HPTs.

(2) Drafting TST guidance for JFC approval and inclusion in the targeting guidance.

(3) Disseminating time-sensitive targeting C2 guidance.

(4) Monitoring time-sensitive targeting operations.

(5) Coordinating cross-component time-sensitive targeting issues including ISR and attack asset support, and deconfliction.

(6) Validating, prioritizing, disseminating, and deconflicting JFC and higher authority TST nominations for components.

2. Air-Ground Operations

a. Depending on the operating area and target location, the supported commander for TSTs could be any of the component commanders or subunified commanders. Command centers will coordinate activities with the JFC Joint Operations Center (JOC) and other components. The Theater Air-Ground System is the functional architecture through which interoperable air/ground operations occur. Figure II-1 illustrates a time-sensitive targeting C2 structure that was effective during OIF, and that may serve as a template for future time-sensitive targeting C2 structures and relationships.

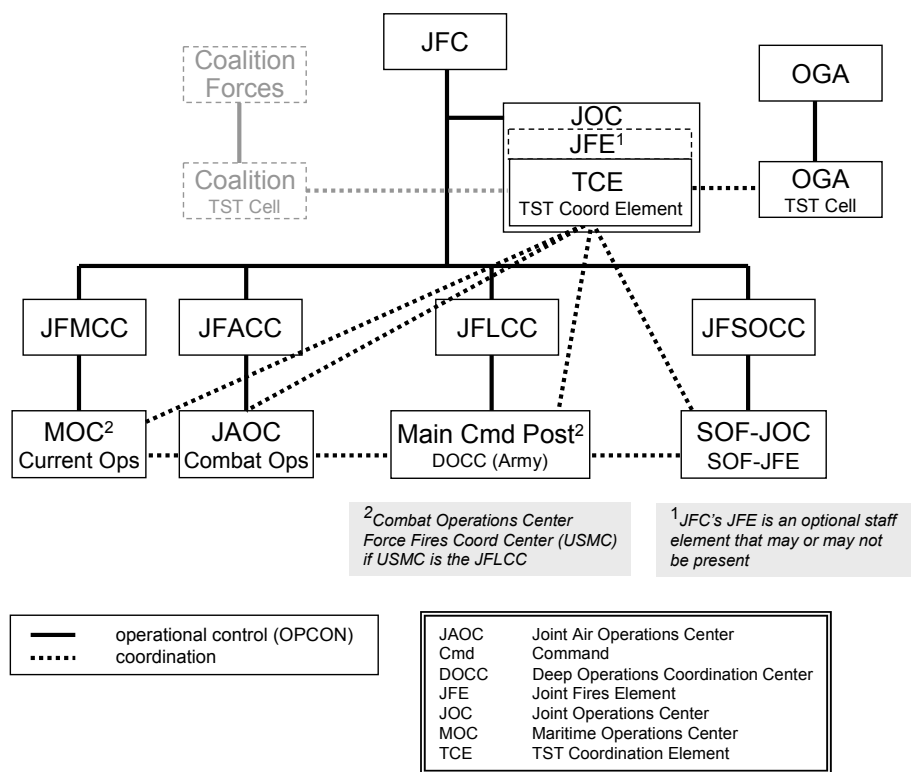


Figure II-1. Notional Time-Sensitive Targeting C2 Structure

b. The following points concerning Service time-sensitive targeting C2 are of note:

(1)JFC TCE may be resident within a JOC Joint Fires Element (JFE).

(2)The Air Force’s organic weapon system for integrating coordinating and executing time-sensitive targeting operations is the Air and Space Operations Center (AFAOC).

(3)The Army agency for ground operations support to time-sensitive targeting execution is typically the deep operations coordination cell (DOCC) fire support element (FSE).

(4)The Marine agencies include the combat operations center (COC) force fires coordination center (FFCC), tactical air command center (TACC), and the fire support command center (FSCC).

(5)The Navy agencies include the Current Operations TST Cell within the Maritime Operations Center (MOC), if established, supporting arms coordination center (SACC), tactical flag command center, and strike warfare commander (STWC)/strike planning cell (SPC).

(6)Joint Force Special Operation Component Commander (JFSOCC) JOC coordinates SOF activities with the JFC JOC. Liaisons may be present at the component level to enhance coordination further.

(7) OGA liaison activities will occur through JFC connections for time-sensitive targeting coordination and deconfliction.

(8) Operations involving multinational assets or support may have additional restrictions. Liaison with the appropriate headquarters will be required (see Appendix B, Multinational Time-Sensitive Targeting Considerations, for further information).

(9) For further information on listed organizations, refer to Appendix A, Service-Specific Time-Sensitive Targeting Procedures When Assigned Component Command.

c. Time-Sensitive Targeting Automation.

(1) The JTF HQs should appropriately organize to facilitate the expediency required for overall TST guidance and coordination (Figure II-2). All Service components and functional organizations (OGAs, etc.) should be able to “plug in” and have visibility into all TSTs being monitored as required via collaboration tools, such as joint time-sensitive targeting manager (JTSTM), joint tactical data network manager, the global command and control system (GCCS) common operational picture (COP), InfoWorkSpace (IWS), or other designated information collaboration (e.g. chat) systems. If these systems and applications are not available, a lesser capability can be realized via established scheduling and fire control systems such as the theater battle management core system (TBMCS), Advanced Field Artillery Tactical Data System (AFATDS), etc., visualization systems such as GCCS, Air Defense System Integrator (ADSI), Situational Awareness and Assessment, etc., and communication systems such as Tactical Digital Information Link-Joint (TADIL-J), Secret Internet Protocol Router Network (SIPRNET) e-mail, Combined Enterprise Regional Information Exchange Service, secure telephone unit (STU)/ secure telephone equipment (STE), etc., and paper coordination sheets. As with any computer-based system, vulnerabilities exist, so backup coordination systems, methodologies, or processes are necessary and need to be practiced.

(2) While collaboration tools provide the opportunity for quick coordination and enhanced SA, equal component visibility into target nominations does not necessarily mean equal prioritization. Target priorities will vary due to JFC and component guidance, but collaboration tools may not make those differences in priority apparent. There may be a natural tendency to focus on the latest nominations or nominations of a particular type. Those responsible for TST prosecution must use care to understand and adhere to TST priorities, and should seek clarification when priorities are not clearly conveyed in a collaboration tool.

(3) See Appendix F, Time-Sensitive Targeting Collaboration Tools and TTP, for recommendations on establishing and using time-sensitive targeting collaborative tools (available online at <https://wwwmil.alsa.mil/TST.htm> or <http://www.alsa.mil>).

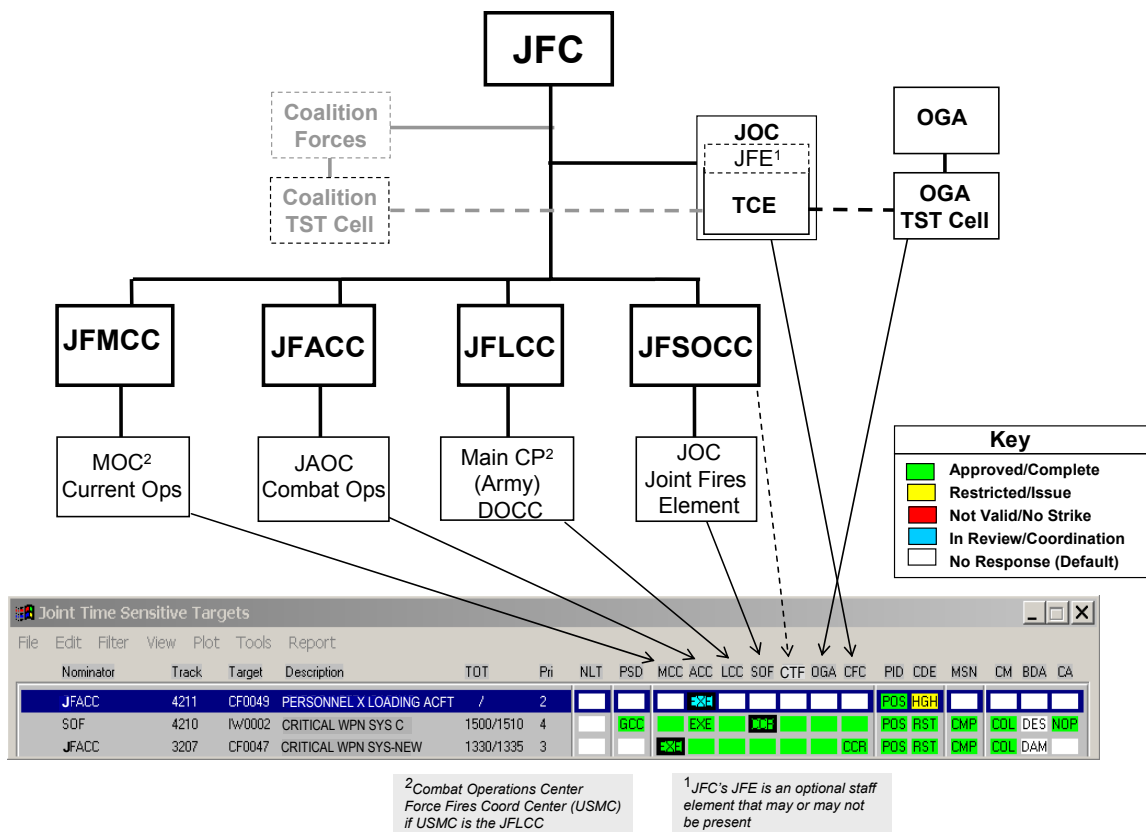


Figure II-2. Notional Time-Sensitive Targeting C2 Structure and Collaboration System

3. Joint Forces Commander

a. The JFC will establish guidelines and priorities for TST prosecution. Components will then establish structures and procedures for TST prosecution based on that guidance. Time-sensitive targeting nodes share battlespace awareness via wide area networks and common interactive displays to streamline C2 of the time-sensitive targeting process.

b. The JFC determines the delegation of TST execution to components. During a relatively small conflict (like post-Taliban OEF) or during a conflict when components do not have adequate TST Cell capability or manning, a TST Cell at the JFC JOC may maintain centralized control and execution for TSTs. In contrast, during a larger scale conflict (like OIF), the JOC may maintain a TCE; however, the JFC may delegate the execution of TSTs to the component level for the duration of the conflict. Some of the same personnel participated in the JFC JOC time-sensitive targeting activities in OEF and again in OIF, and recognized the value of having a centralized control and decentralized execution capability in a high-tempo conflict in contrast to the centralized time-sensitive targeting control, execution, and engagement authority during OEF.

Note: To expedite TST prosecution, the JFC should delegate TST execution authority to the component level or below, if ROE and staffing allow.

c. Delegation of authority will help expedite TST prosecution and help ensure that missions are planned and executed by those best positioned to carry them out. The JFC staff may plan and prosecute TSTs. Whether delegated or retained, those given authority for TST prosecution must have the ability to command, control, and execute time-sensitive targeting operations, as well as have a commensurately trained staff.

OEF time-sensitive targeting C2 experiences. During OEF, air attack assets were normally available and frequently exceeded the number of identified suitable targets. Stringent national leadership concerns about limiting CD increased the complexity of the time-sensitive targeting process. Staff judge advocate (SJA) representation advised on targeting compliance with the laws of armed conflict.

OIF TST time-sensitive targeting C2 experiences. Many of the same personnel who worked the OEF time-sensitive targeting process also were involved in OIF. Their experience identified ROE, collateral damage methodologies (CDM), and PID refinements to overcome constraints to time-sensitive targeting operations. The resulting changes supported the JFC intent and allowed the flexible prosecution of TST missions during combat operations (see Table III-1, Notional JFC TST Decision Matrix and Table III-2, Notional Component TST and Priority Decision Matrix (JFACC Example).

OEF and OIF experiences illustrate the point that time-sensitive targeting processes, C2, and execution will differ in response to campaign-specific external influences. External influences on the time-sensitive targeting process include the nature of the war as defined by the President of the United States and SECDEF objectives, the enemy, and operating area-specific geographic, political, and humanitarian issues. The time-sensitive targeting process must remain flexible because it may change significantly within the same operation.

A single time-sensitive targeting process cannot be effectively applied to all situations.

4. TST Cell Staffing

Precontingency planning by the JFC TCE and the component TST Cells is essential for successful time-sensitive targeting operations. Personnel should have accomplished initial and follow-on (continuation) training, and have continuity in their positions in the TST Cells, i.e., operations, legal (i.e. SJA), intelligence, communications, etc. throughout contingency planning. This ensures teamwork and a clear understanding of relationships, processes, and job responsibilities – all critical to rapid TST prosecution. Personnel in each cell must coordinate within their component, across components, and with the JFC throughout the planning process. This ensures time-sensitive targeting requirements are achieved and shared in a timely fashion, including ROE, CDM, deconfliction, PID requirements, TST priorities, etc.

5. Other Government Agency C2 for Time-Sensitive Targeting

a. Numerous nonmilitary OGAs, such as the Federal Bureau of Investigation, Drug Enforcement Administration, CIA, Department of Energy, and Department of State may be present in combat areas, as was the case in OEF and OIF. In order to prevent

fratricide, the military must deconflict their planned operations/actions with these agencies. Optimally, an OGA liaison element would be present at the appropriate component(s) to ensure unity of effort for targeting. For a variety of reasons, these agencies will typically not be represented below the JFC level. TST prosecution must therefore be deconflicted with OGAs via the JFC TCE. All component targeting lists or managers should be made available to the OGA nodes controlling deconfliction/clearance of fires. In order to minimize agency-unique, nondoctrinal solutions and to ensure interoperability and organizational security for these agencies in the battlespace, an OGA deconfliction center should be established. The CIA's Targeting Support Group could serve as an initial template for this organization within the JTF structure.

b. CIA. During contingency planning, a process and structure must be established with the CIA that will allow quick resolution of HUMINT into a targetable solution (at the component level). Normally, CIA will only provide direct support at the JFC level. However, if a component is going to be tasked to prosecute TSTs on which the CIA could be collecting intelligence, the ability to communicate expeditiously with CIA's source handlers is vital. The most appropriate way to arrange this connectivity and support is to request the JFC arrange for the required support. Without rapid communications capability, a component could face situations where it is unable to get the level of intelligence detail required in order to obtain execution approval.

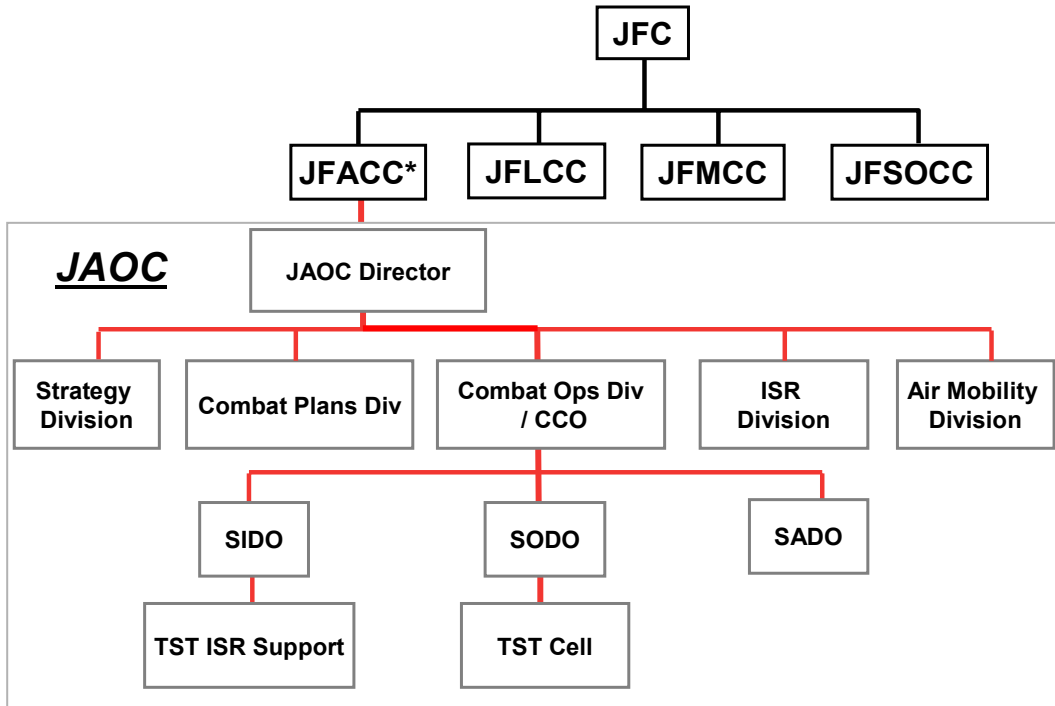
A key OIF lesson was detailed preconflict coordination and training exercises between military and OGAs has huge combat benefits, ensuring smooth operations from the start of a conflict. For an example of detailed OGA/military planning involved in OIF, refer to Appendix D, *COMUSCENTAF Counter-SCUD CONOPS and Playbook*, (SECRET REL GBR/AUS), available online via SIPRNET at <http://wwwacc.langlely.af.smil.mil/alsa/tst/tst.htm>.

6. JFACC C2 for Time-Sensitive Targeting

a. The JFC will normally assign JFACC responsibilities to the component commander having the preponderance of air assets and the ability to effectively plan, task, and control joint air operations. The USAF, USN, and USMC are each separately capable of performing the JFACC functional component mission. The organization described below depicts capabilities that are organic to the US Air Force, which presents to the joint or combined force as an integral AOC weapon system. In most cases, the commander of Air Force forces (COMAFFOR) will also be the Joint/Combined Force Air Component Commander, but if this is not the case, then the COMAFFOR will retain operational and administrative control of the AOC. The organization described below is the Air Force model refined from experience in OAF, OEF, and OIF.

b. The COMAFFOR leads the AOC organization, which includes an AOC director, five divisions (Strategy; Combat Plans; Combat Operations; ISR; and Air Mobility), multiple support/specialty teams (see Figure II-3), and liaison officers (LNOs). Each division integrates numerous disciplines in a cross-functional team approach to planning and execution. Although the Air Force provides the core manpower capability for the AOC, other Service component commands and allied nations contributing air

capabilities/forces provide critical coordination, support, and personnel to the organization.



**In most cases, the COMAFFOR will also be the JFACC*

Figure II-3. JFACC JAOC C2 Structure for Time-Sensitive Targeting (USAF)

c. **Combat Operations:** The Senior Offensive Duty Officer (SODO) is responsible for overall offensive attack operations of the AOC (including time-sensitive targeting operations) through a variety of tools and works in close coordination with the TST Chief. The Senior Air Defense Officer is responsible for the overall area air defense plan, ensuring critical TST tasking is communicated to the appropriate tactical C2 nodes and will monitor AOC air activity through the standard air COP. The Senior Intelligence Duty Officer (SIDO) is the primary person responsible for ISR integration and support for the Combat Operations floor. Offensive operations effort includes monitoring and control of the TST Cell. The Search and Rescue Duty Officer/Rescue Coordination Cell on the Combat Operations floor closely coordinate with the TST Cell for support to Combat Search and Rescue operations and personnel recovery. The combat operations SJA is responsible for reviewing strikes against all targets not on the ATO (such as TSTs and component priority targets) for compliance with LOAC and ROE.

d. Appendix A provides more detail on each of the divisions and the interaction required between divisions and/or teams in prosecuting TSTs, and includes USN and USMC Service specifics if case one of those service components is fulfilling the role of JFACC.

7. JFLCC C2 for Time-Sensitive Targeting

a. The JFLCC in an operational area is typically the Service component commander with the preponderance of ground forces and the ability to command and control them. The Army and Marine Corps are each separately capable of performing the JFLCC functional component mission. Special Operations Command can also serve as the JFLCC when no other conventional land forces are involved in the operation, such as in early OEF stages. Described below are the Marine Corps and Army's model refined from experience in OEF and OIF.

b. **USMC C2 for Time-Sensitive Targeting.** The Marine Corps task-organizes for operations consistent with its statutory mandate by forming a Marine Air Ground Task Force (MAGTF). The MAGTF is a balanced, air-ground combined arms task organization of all Marine Corps forces under a single commander, structured to accomplish a specific mission. All MAGTFs are expeditionary by design and comprised of four core elements: a command element, a ground combat element (GCE), an aviation combat element (ACE), and a combat service support element (CSSE) (Figure II-4).

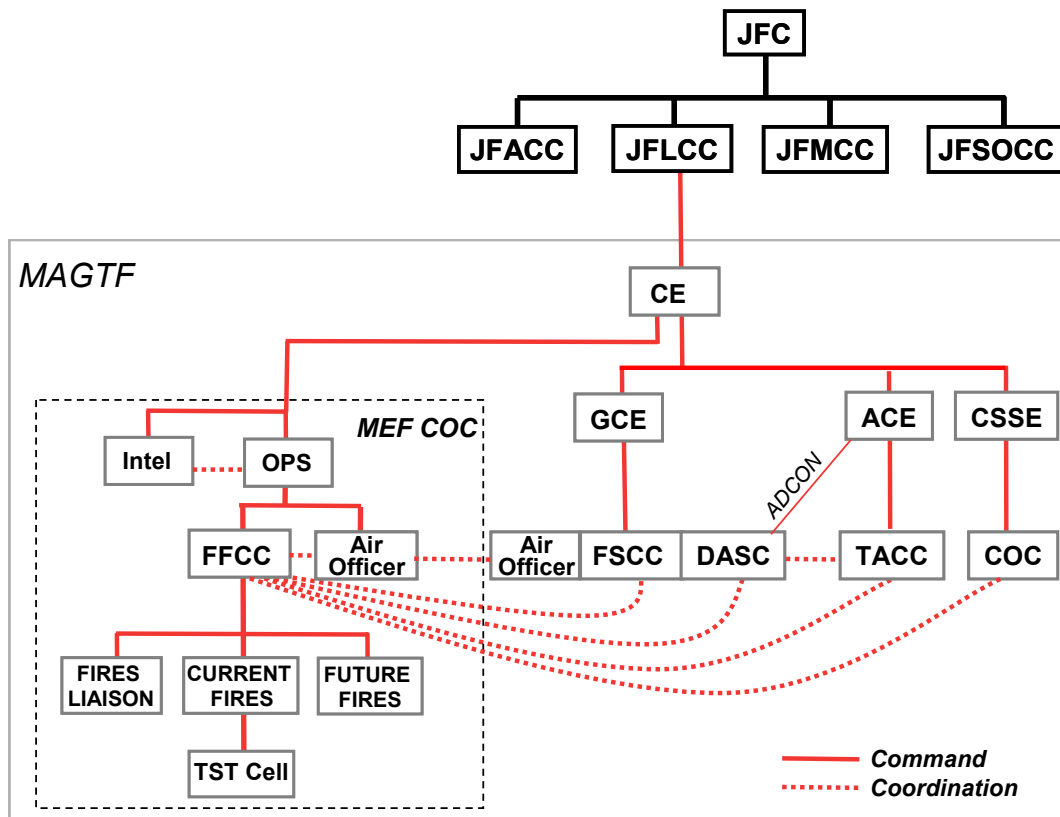


Figure II-4. USMC JFLCC C2 for Time-Sensitive Targeting

(1) Within the MAGTF Command Elements (CE), the G3 plans and executes combat operations. The Combat Operations Center (COC) is the MAGTF senior control node during operations. Within the COC, the FFCC is responsible for planning, coordinating, and executing MAGTF fires. The FFCC is further divided into three sections: future fires, current fires, and fires liaison. The future fires section is

responsible for planning, deliberate targeting and prioritizing TSTs and component priority targets throughout the MAGTF battlespace. The current fires section is responsible for directing the engagement of TSTs and component priority targets. The fires liaison section provides liaison to fires agencies external to the MAGTF including the JAOC, DOCC, Navy's SACC, and the Army's battlefield coordination detachment (BCD).

(2) Internal to the MAGTF, the FFCC interfaces with subordinate fires organizations including the GCE FSCC, the ACE TACC, the CSSE COC, and if established, the rear area operations center for the time-sensitive targeting process.

(3) As the current fires section is the MAGTF TST execution cell, it prioritizes, coordinates, and prosecutes TSTs and coordinates with higher headquarters using the JFC approved time-sensitive targeting automation system. It deconflicts TST prosecution within the MAGTF and with higher, adjacent, and external commands. It maintains close coordination with the GCE FSCC, ACE TACC, CSSE COC, and rear area operations center for integration and deconfliction for the time-sensitive targeting process.

c. **Army Forces (ARFOR) C2 for Time-Sensitive Targeting.** The ARFOR command post synchronizes the battle command system and provides continuity for ARFOR operations. It synchronizes the entire ARFOR current battle, conducts ARFOR deep operations, and plans all future operations. Within the main CP, multidisciplined cells are created to enhance and speed coordination. The cells include the current operations, plans, intelligence, and fire support.

(1) The DOCC is responsible for planning, coordinating, and synchronizing all ARFOR deep operations to ensure unity of effort and full integration of all capabilities. It is responsible for planning operational and tactical-level deep fires, to include TSTs, airspace deconfliction, target acquisition, and FSCMs within the designated ARFOR operating area. The ARFOR DOCC coordinates intelligence, target acquisition, and attack assets for TSTs. The DOCC is the focal point for ARFOR centralized time-sensitive targeting planning and the DOCC FSE is the focal point for ARFOR time-sensitive targeting execution (Figure II-5). The DOCC determines the optimal means of engaging TSTs based on location of attack assets, range, operational status, other missions, air defense threat, and accuracy of the target acquisition data.

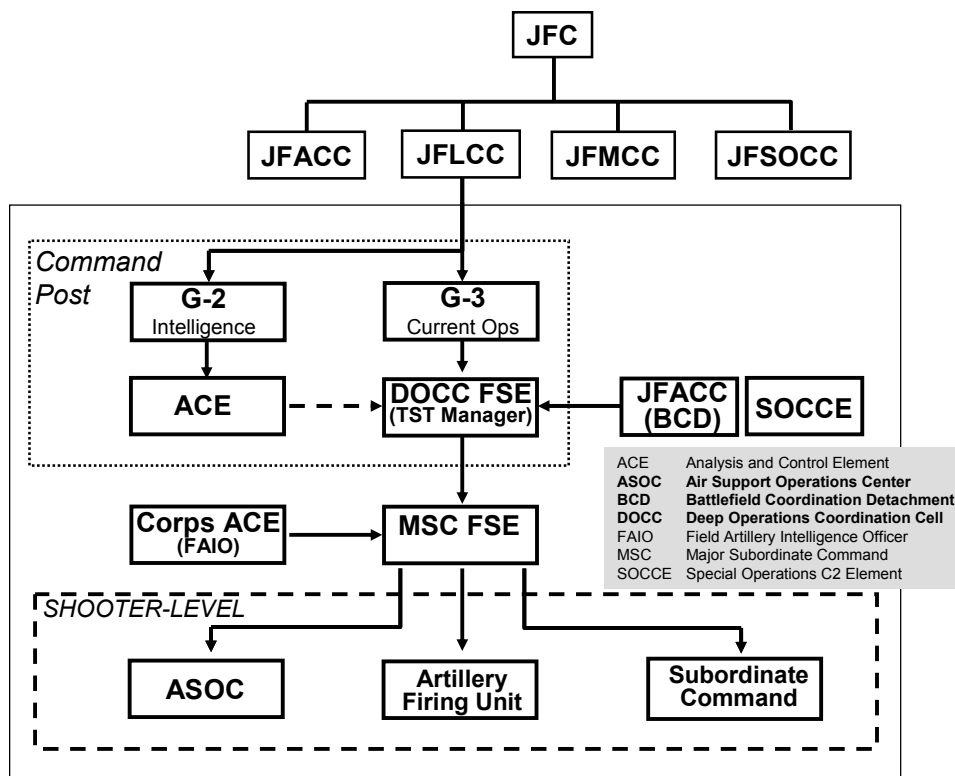


Figure II-5. ARFOR C2 for Time-Sensitive Targeting

(2) The DOCC FSE is responsible for ARFOR fires execution and is the ARFOR TST Cell. The FSE selects optimal target-weapon pairings for TSTs, deconflicts TST engagement, clears fires, and directs internal assets to engage TSTs or requests strike support from other components.

(3) Factors considered include:

- (a) Target description.
- (b) Range.
- (c) Time of information.
- (d) Dwell time.
- (e) Friendly attack asset status and capability.
- (f) PID.
- (g) ROE.
- (h) LOAC.
- (i) Risk of fratricide.
- (j) CD.

(4) Analysis and Control Element. The Analysis and Control Element is the primary Assistant Chief of Staff (Intelligence) organization for controlling intelligence

and electronic warfare operations. The Analysis and Control Element performs collection management, produces all-source intelligence, provides intelligence and electronic warfare operations, technical control, and disseminates intelligence and targeting data across full spectrum operations.

8. JFMCC C2 for Time-Sensitive Targeting

a. The maritime component commander will typically be the service component whose forces are the focus of effort of the maritime portion of the joint campaign. The maritime command and control of TST focuses on integrating naval capabilities with the capabilities of other functional components to ensure TST's are neutralized in the most advantageous way possible. The maritime component commander staff is organized to integrate intelligence support with rapid strike operations. This organization takes advantage of the tactical situational awareness of the subordinate maritime commander (SMC). JFMCC provides operational-level command and control to ensure tactical responses are operationally sound. The Navy and Marine Corps are both capable of performing the maritime component commander function.

b. Maritime Operations Center. The MOC is the primary agent for JFMCC operational level coordination and guidance of near term planning and execution. The MOC resolves resource allocation conflicts with other components and tactical commanders once the plan has transitioned to execution. TSTs and other fires are coordinated from the current operations cell (COC) within the MOC (Figure II-6). The MOC has expertise in the execution of all of the primary maritime missions.

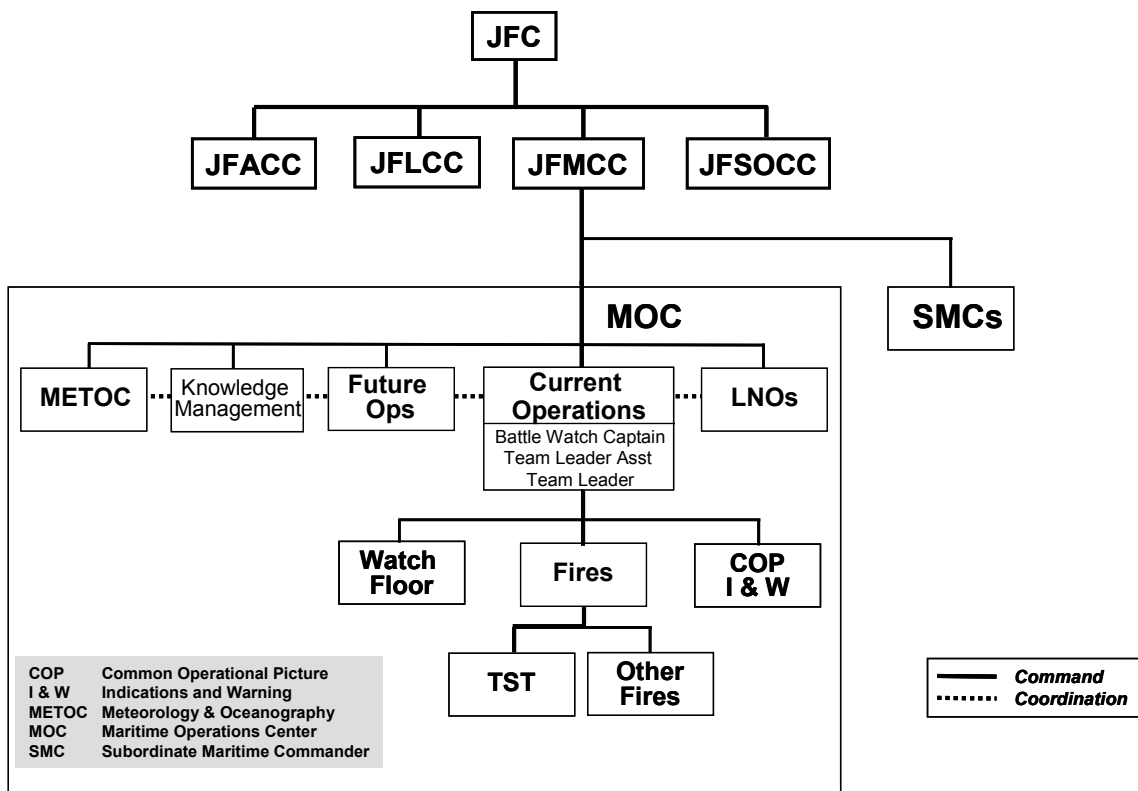


Figure II-6. JFMCC C2 Structure for Time-Sensitive Targeting

(1)The MOC monitors task execution and coordinates changes to tactical plans from the JFMCC perspective. It also coordinates the management of ISR assets with the intelligence staff and tactical subordinates (Task Force Commanders). The MOC manages the JFMCC-wide common operational picture and facilitates the engagement of TSTs.

(2)The MOC monitors the status of missions, and near term plans. The tactical commanders and the MOC staff work together to keep each other informed of developments that affect the relative priority of tasks and missions.

c. **Current Operations Cell.** The COC is responsible for providing the situational awareness during an operation and acting as the executive cell for the implementation and coordination of the Commander’s orders. It is the central point for all planning cells to forward key events and receive information. The COC primarily focuses on short-term operations when insufficient time is available to conduct a coordinated planning effort. The COC conducts 24-hour operations and is composed of a team of experts in various warfare areas. This team, led by a Battle Watch Captain, is the focal point for all current operations. The team routinely communicates current events across various planning cells, primarily with Future Operations. The Battle Watch Captain reports directly to the Operations Officer, Chief of Staff, and the Commander.

(1)The Fires Section of the MOC provides JFMCC operational oversight of tactical missions. A TST execution cell may be physically located in the Fires section of the MOC. However, it is possible that the TST execution cell may be located at the

maritime force STWC Watch. In either case, the TST cell prioritizes, coordinates and prosecutes TSTs and coordinates with higher headquarters using the JFCs approved automation system for managing time-sensitive targeting. It deconflicts TST prosecution within the maritime force and with higher, adjacent, and external commands.

(2)STWC's Watch (often referred to "Bravo Papa"). The STWC is responsible for all offensive operations for the Expeditionary Strike Force (combination of Carrier Strike Group and Expeditionary Strike Group) in support of JFMCC objectives. Therefore, if the MOC has not established a TST Cell or the JFMCC has not established a MOC, the STWC's Watch will act as the Current Operations for offensive operations and coordinate TST engagements for the JFMCC.

9. JFSOCC C2 for Time-Sensitive Targeting

a. The JFSOCC will have a JFE embedded in the JFSOCC JOC, which serves as the focal point for all joint fires issues, including time-sensitive targeting (Figure II-7). The JFSOCC JFE is responsible for TST coordination and prosecution within its operating areas and controls SOF inputs to the joint force time-sensitive targeting coordination tools, such as JTSTM in Automated Deep Operations Coordination System (ADOCS). The JFSOCC JFE will be the primary node for targeting and deconfliction, but not necessarily the only JFSOCC node. The JFSOCC can potentially employ its forces as one or more subordinate CJSOTFs, each with its own JFE. These CJSOTFs normally operate within a designated Joint Special Operations Area (JSOA), possibly within other components' operating areas.

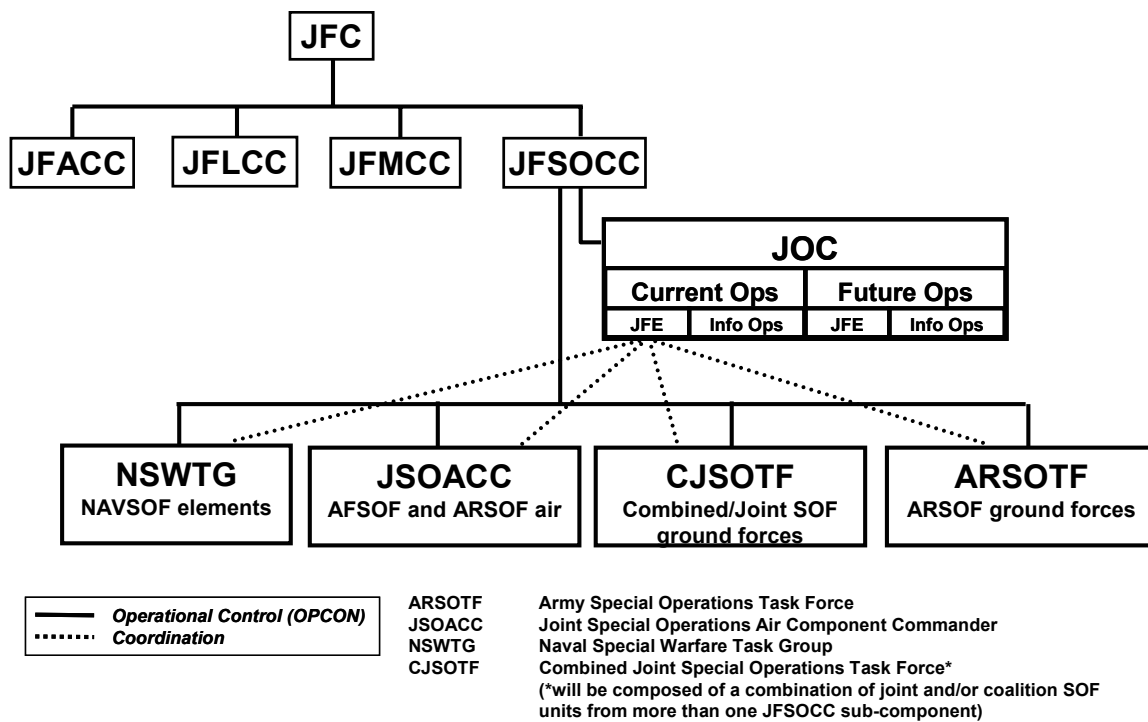


Figure II-7. JFSOCC C2 Structure for Time-Sensitive Targeting

b. Subordinate CJSOTF JFEs may prosecute identified TSTs within their JSOAs using organic assets or, when the JSOA is located within another component's AO, they may coordinate directly with that component for any fire support assets allocated or apportioned specifically for time-sensitive targeting operations. Each CJSOTF JFE will determine its own FSCM requirements and coordinate those requirements through the JFSOCC JFE. In certain directed situations, where a specific CJSOTF may be in support of another component, the CJSOTF JFE may coordinate directly with the supported component's headquarters for FSCM requirements. The JFSOCC will be kept informed of all applicable coordination.

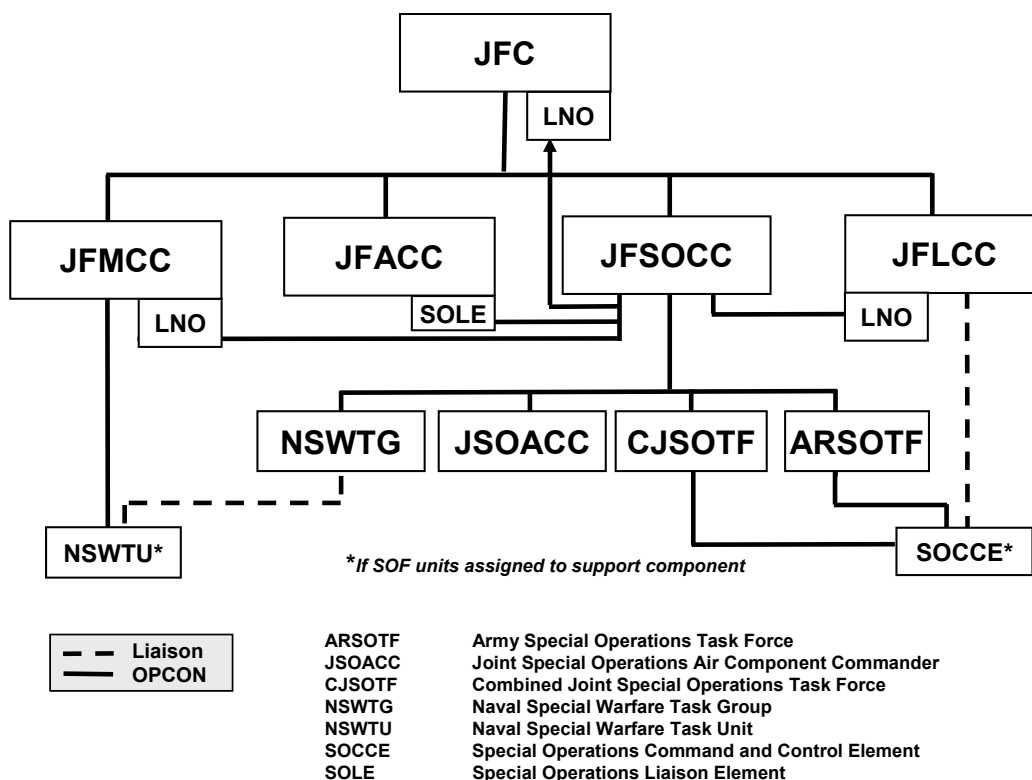


Figure II-8. JFSOCC C2 and Liaison Integration

c. For TSTs prosecuted in support of the JFACC, the CJSOTF JFE will coordinate with the Special Operations Liaison Element (SOLE) representative in the JAOC TST Cell (Figure II-8). For TSTs prosecuted in support of the JFLCC, the CJSOTF JFE will coordinate with its deployed Special Operations Command and Control Element (SOCCE) collocated with the JFLCC JFE or its subordinate corps-level JFE/Fires Cell. Coordination with the JFMCC will be through the deployed Naval Special Warfare Task Unit (NSWTU). The CJSOTF may permit subordinate units operating within another component's operating area, but not within a JSOA, to coordinate directly with the SOCCE or NSWTU for TST reporting and fires support. The reporting process will follow the procedures established by that component's JFE/Fires Cell.

10. C2 Architectures and Systems for TST Prosecution

a. The joint task force and components require a coordination capability so that when a component cannot prosecute a TST it has discovered, it can quickly highlight the target to other components for prosecution or additional surveillance.

b. Architectures supporting time-sensitive targeting should be robust, responsive, and scalable.

(1)Robust: architectures that do not easily degrade, have alternate communications pathways, no single point of failure, and share information in near real time (NRT).

(2)Responsive: architectures that can support extremely short timelines related to target detection, target identification, decisionmaking, target engagement, and post-strike assessment.

(3)Scalable: architectures that are capable of use by, or directly support, all levels of warfighting forces to cover a wide range of conflicts under varying ROE.

c. C2 architectures must be supportable from sea, shore, or air and permit engagement of targets at range in an environment where limiting collateral damage influences the ROE.

d. Successful time-sensitive targeting operations depend on the architectures and processes integrated to support a rapid exchange of information throughout the JTF (systems interoperability is required). Training of intelligence and operational personnel together in joint venues is critical to ensuring smooth sensor-to-shooter kill chains from the very beginning of a campaign. Personnel at all levels must be able to readily access all available information, process it to meet their requirements, collaborate with other users in a format that they can use, and archive it in databases for future use. "Intelligence systems" must be technically capable of updating "operations systems" to reduce workloads and process times. **It is imperative to develop redundant and backup C2 plans and procedures during the preplanning process in order to mitigate system vulnerabilities.**

Chapter III COMMANDER'S OBJECTIVES AND GUIDANCE

1. Background

a. Detailed and clearly articulated commander's objectives and guidance is the first and most important step in prosecuting TSTs in a joint or combined operation. Phases I through IV of the Joint Targeting Cycle collectively produce the Commander's TST guidance, which sets the boundaries for the time-sensitive targeting process.

b. In order to accelerate the decision time between the on scene commander and the JFC, the JFC "must articulate objectives, guidance, priorities, and intent for TSTs before the target is even identified" (JP 3-60). Time-sensitive targeting operations will be based on the objectives and targeting guidance from the JFC. The JFC guidance should also clearly define the TST priorities, desired effects against TSTs (where it can be specified before a TST emerges), engagement approval authority, applicable restrictions, C2, target nomination and coordination procedures, and acceptable risk. Commanders should also periodically review in-place TST guidance for possible adjustments to keep abreast of changing situations and the flow of the battle or operation. The TST guidance and prioritization should be reviewed and discussed at the JTCB.

c. The JFC provides specific guidance and prioritization for TSTs within the joint operational area. After soliciting component-level inputs, the JFC designates TSTs and establishes their priorities. TST priorities can change throughout an operation and clear, current JFC guidance and prioritization enables commanders at all echelons to make timely decisions on resource allocation for prosecuting TSTs. TST lists can change, thus, time-sensitive targeting requires a TST nomination process.

2. Elements of the Commander's TST Guidance

a. **Target Priorities.** The JFC, in coordination with the components, identifies and prioritizes TSTs, stating target types, desired effect, and purpose. The JFC should limit the number of TST types or the priorities become meaningless. For example, in OIF there were only five TST categories.

b. **Engagement Approval Authority.** The JFC must balance national guidance, strategic impact, component commander's operating area, and assigned missions, with the requirement to strike TSTs rapidly when assigning TST engagement approval authority. Ideally, execution approval authority should be delegated to the lowest level possible while maintaining the ability to command, control, and coordinate the time-sensitive targeting operation. However, political and other considerations may require retaining engagement approval authority at the JFC or higher levels of command. Key decision points and decision makers, to include multinational partners, should be identified wherever possible.

c. **Positive Identification.** The JFC establishes requirements for PID prior to TST execution in order to achieve the required confidence of target identification for engagement. This can be a subjective judgment based on the situation. Different TST types, or the location of the TST (such as in an urban area) may require data from

multiple sensors. However, the JFC and components must clearly spell out requirements for particular sensors or organizations to determine PID.

d. Rules of Engagement. ROE are the directives issued by competent military authority, which delineate the circumstances and limitations under which US forces will initiate and/or continue combat engagement with other forces encountered. The ROE for each operation is situation dependent, making it more or less restrictive than previous operations. While the commander's guidance does not contain the specific ROE for an operation, it should incorporate any important overarching concepts and restrictions from the ROE that have a significant and immediate impact on planning and executing time-sensitive targeting operations.

e. Collateral Damage Methodologies.

(1)The JFC defines parameters governing CD. Components will develop procedures to ensure compliance with JFC CD guidance. The JFC can delegate the authority to components to conduct collateral damage estimation (CDE) under applicable CDM. Refer to CJCSM 3160.01, *Joint Methodology for Estimating Collateral Damage and Casualties for Conventional Weapons: Precision, Unguided, and Cluster (S)*, for applicable guidance.

(2)The JFC defines parameters governing COE as part of the CDM to address the effects of conventional weapon strikes against targets that may contain WMD or toxic industrial chemicals/toxic industrial materials. The JFC can delegate the authority to components to conduct COE under applicable CDM.

f. C2 and Coordination Requirements.

(1)The JFC approves component concepts of operations that spell out how C2, coordination, deconfliction, and synchronization unique to TSTs will occur. A fully networked communications system between all components and the JFC command center will allow for more effective and efficient time-sensitive targeting operations and situational awareness capabilities. Because organizations can share and network critical information, a higher confidence level of operational decisionmaking is possible. Standardize information products/systems used in cross-component coordination and collaboration to allow increased familiarity and efficiency in working through the time-sensitive targeting process. Trained teams at each component command center will assist effective TST coordination and operations.

(2)ISR assets are normally organic to components, therefore, JFC delegation of collection management authority (CMA) preserves efficient C2 and functional relationships and can improve sensor retasking timeliness for TSTs.

g. Acceptable Risk. The JFC guidance should stipulate the degree of acceptable risk when engaging specific TSTs. Specific TST threats to the force or to mission accomplishment may warrant the JFC accepting a higher level of risk and CD, and attacking the target immediately upon its detection. Personnel involved in the prosecution of TSTs must have a clear understanding of the JFC acceptable risk level (fratricide, force attrition, CD, COE etc.).

3. Levels of Decentralization for TST Execution

The commander's guidance should clearly delineate how to conduct time-sensitive targeting operations under specific circumstances. The following paragraphs provide a framework for understanding options for conducting time-sensitive targeting operations.

a. Decentralized to the Shooter. Time-sensitive targeting operations decentralized to this level delegate the authority for target identification, collateral damage assessment, deconfliction, target area clearance, risk, and threat assessment on the shooter. Shooters operating in this environment perform all the functions of the TST Cell in a substantially time-compressed cycle, using all available resources to assist in the strike decision. This is the most permissive TST environment as well as the most risky, as it allows the shooter to engage the enemy forces quickly upon detection and identification.

Note: The key to shooter-level TST execution authority lies in effectively training the shooter during contingency planning on the proper correlation between acquired targets and ROE/CD directives, and deconfliction from friendly force locations.

b. Decentralized to Tactical Level Control Elements. Detailed, clear, and executable component guidance is critical to success if TST engagement authority resides at this level. Factors that limit the accomplishment of TST engagement at the tactical level may include inability to fully accomplish CDE, mensurate coordinates (C2 system dependant), weaponer for fire effects, obtain a PID, or to ensure deconfliction, target area clearance, especially from OGA and other battlefield entities.

c. Decentralized to Component TST Cell Level. At this level of operations, the tempo of time-sensitive targeting operations reaches an intensity such that extensive coordination with senior component decision makers is not needed (based on the ROE and commander's guidance in effect), or is excessively time consuming.

d. Decentralized to the Component Commander Level. At this level, all component assets work together to support the commander's concept of operations (CONOPS). TSTs are approved for strike by the component commander when doing so impacts other operational objectives for the component's approved CONOPS, when execution and asset allocation prevents other planned targets from being struck per the planned target list, when such execution affects other component operations underway or when operations would place personnel at undue risk.

e. Centralized at the JFC Level. The JFC may retain authority in cases where sensitive political considerations, force protection, and risk require the highest levels of approval before execution or in small scale conflicts where component staff manning may not support decentralization of time-sensitive targeting decisions.

4. JFC and Component Interaction for JFC TST Guidance Development

TST guidance development is an iterative process requiring JFC and component interaction and coordination during all phases of planning and execution. The guidance development process must include a feedback mechanism for the components to make inputs and recommend changes to TST guidance during preconflict planning and

execution. The interactive planning between the JFC and component staffs will ensure the guidance is clearly understood, and that the engagement approval authority is held at the appropriate command level. The result will be a joint time-sensitive targeting process that affords maximum flexibility and responsiveness, balanced with requirements to support LOAC, avoid fratricide, control collateral damage, mitigate COE, and operate within the acceptable risk. The JFC TST guidance must be reviewed periodically to ensure it is appropriate and relevant as the nature of the threat and/or conflict changes. As a minimum, JFC TST guidance should be a specific agenda topic during every JTCCB.

5. TST Nomination Procedures

TST nomination is not a static or one-time-through process. The JFC and staff, working with the components, must identify a process for vetting new TSTs. This process must avoid “stove-piping” target categories and creating diverging processes (for example, too many “high-priority” categories is confusing and self-defeating). The TST nomination process established should be as simple as possible and adjust to changing priorities as needed.

6. TST Decision Matrix

a. The commander's objectives, intent, and guidance should be clear and concise, while being detailed enough to allow formulation of a TST decision matrix. A decision matrix allows component and on scene commanders to reference the commander's intent quickly for each TST type and take quick, appropriate action. A TST decision matrix is a tool, NOT a substitute for personnel fully understanding the underlying TST guidance, ROE, CDM, and TST operating procedures that form the matrix. The TST decision matrix framework should include TST prioritization, approval authority, restrictions, and acceptable risk level (see Table III-1). For acceptable risk level to stay meaningful, the JFC must define risk level terms (high, medium, and low).

Table III-1. Notional JFC TST Decision Matrix

EFF DATE/TIME:

JFC Priority	TST Target Type	Desired Effect	Approval Authority	Additional Restrictions ¹	Acceptable Risk Level	Other Requirements or Notes
1	Critical weapon system A	Prevent launch	On scene commander ²	--	HI ³	Strike immediately with any asset
2	Personnel or groups meeting X criteria	Isolate, capture, or kill	JFC or above	Higher level notification required prior to striking	HI	Notify JFC immediately & maintain sensor track
3	Critical weapon system B	Prevent movement or use	JFC		MED	Hazard analysis required
4	Critical weapon system C	Neutralize for campaign duration	Component ⁴	--	LOW	--

¹ LOAC, ROE & CD guidance applies to all targets.

² Refer to component level guidance for further details.

³ JFC will accept increased risk of fratricide and CD.

⁴ Component commander may delegate to lower level commands as needed.

b. In the notional component matrix in Table III-2 below, the component commander (JFACC, in this example) includes his amplifying remarks and guidance for forces under his control (see "other requirements or notes" column). The component commander may also add his own component priority target guidance (priority targets #5 and #6). While these targets are not TSTs, this tool will facilitate expeditious engagement of targets inside the deliberate targetting cycle using the same processes established for TSTs. A component's internal guidance will not supersede or be executed as a higher priority than the JFC guidance.

Table III-2. Notional Component TST and Priority Target Decision Matrix (JFACC Example)

EFF DATE/TIME:

Priority	TST Target Type	Desired Effect	Approval Authority	Additional Restrictions ¹	Acceptable Risk Level	Other Requirements or Notes
JFC-1	Critical weapon system A	Prevent launch	On-scene flight leader	--	HI ²	Strike immediately with any asset. Package recommended, but will <u>go</u> without if required.
JFC-2	Personnel or groups meeting X criteria	Isolate, capture or kill	JFC or above	Higher level notification required prior to striking	HI	Notify JFC immediately & maintain sensor track. Package recommended (threat dependent).
JFC-3	Critical weapon system B	Prevent movement or use	JFC		MED	Hazard analysis required. Package required.
JFC-4	Critical weapon system C	Neutralize for campaign duration	TST Cell Chief	--	LOW	Suppression of enemy air defenses (SEAD) required
JFACC-5	Specific key ground force /equipment movement	Destroy	JFACC	--	LOW	Convoy of military vehicles approaching Phase Line Green
JFACC-6	Important weapon system D	Neutralize for campaign duration	TST Cell Chief	--	LOW	SEAD required

¹ LOAC, ROE & CD guidance applies to all targets.

² JFC will accept increased risk of fratricide and CD.

c. The JFC objectives and guidance set a basic procedural framework for components to expedite operations against TSTs. Components do not need to consult the JFC for every target determined to be a TST. Once this guidance is stated, the components establish planned and reactive procedures for finding, fixing, tracking, targeting, and engaging the prioritized TSTs. An assessment must be conducted to confirm TST engagement results. Component responsibilities may include the following:

(1) Identifying and assigning primary sensors and weapon systems to support TST attacks and combat assessment.

(2) Establishing planned and deconflicted FSCMs against specific TSTs.

(3) Defining TST engagement authority based on a component commander's operating area, a component commander's assigned functional mission, or a combination thereof.

(4) Identifying specific communication data links between component C2 elements of the joint force to conduct rapid TST attacks. This normally includes authorizing direct liaison and coordinating authority.

d. JFC guidance drives the TST section of the component commander's daily guidance and intentions message. TSTs will be listed as part of the component commander's daily guidance and intentions to include a TST "hot list" or matrix, specifying to operators how a detected TST compares in priority with other targets. This guidance provides the framework for employing forces to achieve JFC objectives. Based on the initial guidance and objectives handed down by senior echelons, each command begins to evaluate possible courses of action and identifies emerging targets. Commanders are given responsibility for synchronizing maneuver, fires, and interdiction inside their assigned operating areas. JFC TST guidance enables component commanders to designate their own target priorities, effects, and timing within their operating areas.

e. Communication up and down the chain of command is vital to maintaining commanders' SA, and to allow guidance changes or negation of engagement decisions as required. Engagement decisions must also be immediately reflected in COPs and tactical pictures to help prevent dual engagements and to deconflict operations and engagements between friendly forces.

Chapter IV

PLANNING, COORDINATING, ORGANIZING, AND TRAINING FOR TIME-SENSITIVE TARGETING

1. Background

This chapter describes planning considerations, coordination methods, organization, and training for effective time-sensitive targeting operations.

2. Planning

Time-sensitive targeting operations must be effectively integrated into the overall campaign. Planning considerations include, but are not limited to: commander's guidance, IPB, databases, ISR, operations, ROE, CD, command, control, communications, and computers (C4) architecture, and multinational operations, rehearsing and exercising. These considerations should be addressed concurrently to the maximum extent possible and coordinated across components and supporting agencies.

a. Commanders Guidance.

(1) JFC guidance defines the objectives of the campaign and incorporates TSTs into target prioritization to achieve the desired end state. Component commanders interpret JFC target guidance and direct the allocation of assets to achieve JFC intentions with respect to TSTs. Upon receipt of the orders, component commands complete execution planning.

(2) While the JFC may delegate authority to each component for TST prosecution within an operating area, in certain contingencies, not every component may have the staffing, training, or equipment in place to perform all TST Cell functions. In such cases, coordination across components is crucial to ensure that proper and sufficient support is available to prosecute TSTs wherever they arise. Cross-component TST missions are enhanced by coordinating the component commanders' guidance between the cooperating components before or at the start of joint operations.

b. Intelligence Preparation of the Battlespace.

(1) A well-planned IPB is an enabler of successful TST prosecution. IPB allows the joint force and its components to focus their TST planning efforts, and may support positioning sensors and attack assets where they can provide the quickest response. Joint IPB must be predictive in nature, updated as necessary, and used to focus the ISR search and the exploitation efforts of the TST teams. Robust, pre-conflict IPB for each individual TST target type is essential for successful TST prosecution and directly leads to defined TST ISR search areas.

(2) Joint IPB should include Geospatial Intelligence (GEOINT) analysis. GEOINT can facilitate collection and strike planning resolution within target areas of interest (TAIs), resulting in the identification of potential deployment sites. The most productive searches may result from an IPB-driven identification of key named areas of interest (NAIs) and TAIs, and then, focusing ISR in those areas.

(3) See Appendix C for IPB checklists and considerations for time-sensitive targeting. For more detailed information on IPB TTPs, refer to ALSA MTTPs, *Multi-Service Procedures for Theater Missile Defense Intelligence Preparation of the Battlefield (TMD IPB)*, (FM 3-01.16, MCRP 2-12.1A, NTTP 2.01.2, AFTTP(I) 3-2.36) and *Multi-Service Procedures for Joint Theater Missile Target Development (JTMTD)*, (FM 90-43, MCWP 3-42.1A, NWP 3-01.13, AFTTP(I) 3-2.24).

c. TST Lists, Databases and Mission Planning Folders.

(1) User-friendly TST lists and databases can minimize confusion, ease coordination, and enhance TST Cell effectiveness. TST lists and displays may include elements of TST identification, prioritization, sensor and/or weapon pairing, and database track nomenclature. Relevant TST information must be available to decision makers, mission planners, and others supporting the targeting process. The following items should be available as a ready reference throughout the time-sensitive targeting process:

- (a) JFC TST Decision Matrix and Component Matrices.
- (b) Joint integrated prioritized target list (JIPTL) and other target lists.
- (c) Updated battlespace map with operational area CGRS overlaid. Map annotated with-
 - Restricted fire areas (RFAs).
 - No fire areas (NFAs).
 - Other restrictions.
 - Forward location of troops.
- (d) ISR collection plan.
- (e) Contact lists, phone numbers, and frequencies of time-sensitive targeting players (all components & TCE).
- (f) ATO and Master Air Attack Plan (MAAP) brief (JAOC TST Cell).
- (g) Air Operations Directive (AOD) (JAOC TST Cell).
- (h) SPINS, particularly sections relating to TST prosecution.
- (i) Asset management document (i.e. check-in/check-out sheet for C2 platforms, etc.).
- (j) Mission report (MISREP) sheet.
- (k) Other information critical to component TST Cell operations in event of power failures or a computer system malfunction.

(2) Access to initial mission and target planning information will assist decision makers and strike coordinators in developing updated mission tasking and coordination to better prepare ISR platforms and attack assets to engage their targets successfully. Mission planning folders that provide ready access to the types of information needed to support final strike planning will compress planning and execution timelines and allow strike coordinators to expedite coordination and deconfliction of missions.

(3) A common joint database integrating operations and intelligence information is essential for improving the efficiency and effectiveness of TST cell operations.

d. ISR planning.

(1) Based on the results of the IPB and JFC guidance, the collection manager (CM) must develop a collection strategy that enables him to gather TST cueing data (prestrike and poststrike) while still meeting other operational requirements for ISR. Component TST Cells should have a mechanism established with JFC for rapid retasking of operational area ISR and national technical ISR assets. Fire support planners and coordinators should ensure that sensors are identified and arranged to cover NAIs/TAIs where TSTs are likely, and to aid in TST prosecution.

(2) Components must have the ability to retask ISR assets and process, exploit, and disseminate resources rapidly, and the ability to receive dissemination of the exploited intelligence rapidly. For detailed component ISR planning checklists, refer to Appendix C.

(3) JFC ISR collection priority guidance must be linked to TST priority guidance. ISR and operations personnel must be delegated authority to rapidly task sensors at the component level. Opportunity costs must be weighed when retasking sensors and pulling them from their planned collection deck (loss of battle damage assessment (BDA) collection, IPB, indications and warning, etc.). In order to make the best-informed and efficient decisions possible, it is essential that operations and intelligence personnel (specifically ISR collection managers and targeteers) work closely together. OIF and OEF experiences show that it is necessary to utilize “nontraditional” sensors such as SOF, long-range patrols, aircraft with targeting pods, radar warning receiver, etc., to aid in the Find, Fix, Track, and Assess Phases of the time-sensitive targeting process. Factors in ISR resourcing include:

- (a) The availability and sustainability of resources.
- (b) The criticality of the target sets.
- (c) CDE for specific targets.
- (d) The time available for execution.

e. Operational Planning.

(1) Tasking orders may dictate whether time-sensitive targeting will use dedicated TST resources or will rely on responsive retasking of assets allocated to other missions. Recent combat operations have highlighted the following considerations for designating operational area attack assets to supporting TST prosecution:

(a) **DATALINKS.** Where possible, data links should be utilized to the maximum extent possible in order to send targeting information and updates on TSTs. Planning considerations should include specific platform capabilities.

(b) **COMMUNICATIONS STRUCTURE.** Thorough planning must be conducted in the way information is passed from sensors to command authorities to strike assets. Communications medium might include combinations of computer collaboration tools (including chat, ADOCS, etc.), data links, satellite communications (SATCOM), digital voice, high frequency, very high frequency, and ultra high frequency nets.

(c) **MULTIROLE ASSETS.** To increase targeting flexibility, multirole aircraft, tasked with combat air patrol (CAP), can be loaded with air-to-ground and air-to-air ordnance, or airborne alert interdiction (“XINT”) sorties can be scheduled on an ATO.

(d) **FORWARD BASING.** Moving attack assets forward can extend operating periods and reduce response times, but can increase the difficulty of asset resupply and force protection.

(e) **ASSET AVAILABILITY.** Dedicating attack assets to time-sensitive targeting can improve response times, but can also reduce the availability of attack resources for the approved battle plan and reduce operational flexibility in supporting other requirements.

(f) **ALTERNATE TARGETING.** Unused or excess TST attack assets can be used to strike component priority targets.

(g) **REPORTING.** A process must be in place to ensure that unscheduled targets destroyed by TST attack assets are updated on applicable databases and are communicated to affected parties.

(h) **STATUS.** A means for continually updating and displaying weapon systems strike capabilities against various target sets and locations must be developed.

(i) **CLEARANCE OF FIRES.** The time-sensitive targeting process must include a capability to quickly assess and correlate the proximity to friendly forces, non-combatants, and international borders and waters.

(j) **INFORMATION OPERATIONS (IO).** Classified IO capabilities that may assist in various stages of the TST targeting process, should be discussed early on with IO coordination elements and Special Technical Operations (STO) planners. IPB and ISR plans must support the priority intelligence requirements necessary to employ these IO capabilities.

(k) **CD RISK ASSESSMENT.** A risk assessment mechanism is necessary. In OEF, the engagement decision process was slowed by the lack of a risk assessment mechanism (no weighting of the target’s overall value versus the risk of collateral damage).

(l) **DECONFLICTION.** Due to the rapid nature of time-sensitive targeting processes, designated and precoordinated procedures must be planned to deconflict TST fires both within and across components (crucial for the prevention of fratricide).

(m) **DECENTRALIZATION.** Responsive time-sensitive targeting operations require decentralized execution. Rapid execution of TSTs requires thorough planning, documentation, and understanding of where engagement authority resides for a given TST.

(n) **NONTRADITIONAL ISR.** Time-sensitive targeting operations should include the option for using nontraditional ISR assets for Finding, Fixing, Tracking, or Assessing targets to increase ISR flexibility and responsiveness.

Note: Operation ALLIED FORCE, recent exercises, OEF, and OIF experiences point to dramatic improvements in timeliness by decentralization of TST engagement authority and decision making to the lowest level possible.

f. Rules of Engagement and Collateral Damage.

(1) ROE are the directives issued by competent military authority, which delineate the circumstances and limitations under which US forces will initiate and/or continue combat engagement with other forces encountered. The President, SECDEF, JFC, and Component Commanders may issue ROE applicable to TSTs. TSTs are lawful targets based on their military nature (such as military equipment) or reasonable nexus to the war-making ability of the enemy (such as senior regime leadership, or government agencies that support the war effort).

(2) CD is defined as unintended physical damage to noncombatant persons or property occurring incidental to military operations. CDE is the process to estimate and mitigate unintended and unnecessary damage to noncombatant persons or property. The President, SECDEF, CJCS, JFC, or Component Commanders may issue guidance concerning CD in both how it is estimated and what additional approval, if any, is required in the event CDE is HIGH.

(3) COE is defined as damage or contamination of individuals or property as a result of a nuclear, biological, chemical, or toxic industrial chemicals/toxic industrial materials release occurring incidental to military operations. The President, SECDEF, CJCS, JFC, or component commanders may issue guidance concerning COE in both how it is estimated and what additional approval, if any, is required in the event of a release.

(4) The ROE, CD, and COE guidance for each operation is situation dependent and more or less restrictive than previous operations. ROE, CD, and COE restrictions, such as approval authority, may be placed upon certain TSTs due to their sensitivity, location, function, etc.

(5) Inputs to ROE, CD, and COE guidance. TST planners and SJAs need to identify ROE, CD, and COE limitations or requirements affecting time-sensitive targeting operations. Early involvement in ROE, CD, and COE guidance development process by TST planners and SJAs is necessary to ensure the ROE, CD, and COE guidance developed provides sufficient authority to execute time-sensitive targeting operations. Likewise, planners and SJAs must be involved early in the ROE development process to ensure the ROE, CD, and COE guidance does not unduly or inadvertently restrict time-sensitive targeting operations. Finally, TST related ROE, CD, and COE guidance should be coordinated with multinational members as early as possible to identify and resolve targeting issues.

(6) Outputs of ROE, CD, and COE Guidance. If ROE specifically addresses TSTs, it should clearly identify target approval authority and conditions, authorize delegation of approval and execution authority to the lowest appropriate level, and allow maximum flexibility concerning PID. CD guidance should clearly identify who may conduct conventional CD estimates and, if applicable, WMD COE estimates; authorize delegation to conduct CD estimates to the lowest appropriate level; and allow maximum flexibility concerning CD to avoid unnecessarily restricting target approval authority, enabling rapid TST prosecution. ROE, CD, and COE guidance should be disseminated and trained to at all levels as soon as practical.

g. C4 Architecture Planning.

(1) Network-centric time-sensitive targeting reduces the timeline from detection to engagement and assessment/reassessment through distributed information sharing

and collaborative planning and coordination. C4 architecture must be tailored to meet data transfer and collaboration requirements based upon level of conflict, size of AOR, numbers and types of ISR assets available, expected requirement for dynamic retasking of assets, etc. C4 architecture planning needs to occur as early as possible to ensure the appropriate capabilities are available when operations begin. Planning considerations for C4 architecture include:

(a) Bandwidth availability versus requirements.

(b) ISR voice and data networks (wide and narrow band SATCOM) considerations for streaming video, imagery, moving target indicator (MTI), Link 16, tactical information broadcast system (TIBS), trap data dissemination system, voice product net (VPN), etc.).

(c) C4 voice and data networks. UHF, HF, VHF, SATCOM, Link 16, situation awareness data link (SADL), improved data modem (IDM), Combat Track II interim data-link system, rapid precision targeting system (RPTS), variable message format, etc.

(d) Wide area voice and data networks. Distributed Common Ground Station/Deployable Ground Stations, Predator ground control station (GCS), JFC and component coordination and collaboration tools, voice over internet protocol (VOIP), Defense Information System Voice, tactical phones, STU/ STE, SIPRNET, joint worldwide intelligence communications system (JWICS), long-haul ground (T-1/T-3), etc.

(e) Local area voice and data networks. Intercomponent and intracomponent coordination and collaboration tools, VOIP, STU/STE, SIPRNET, Combined Enterprise Regional Information Exchange Service, JWICS, etc.

(f) Classification and releaseability of ISR, targeting, and operational information (i.e. ATO/initial tasking order).

(g) COP displays and synchronization with JFC and among the components.

(h) Redundant capabilities for horizontal and vertical coordination and collaboration as well as data distribution.

(2) In some cases, as occurred during OIF, the JFC may direct the use of particular systems/applications to facilitate coordination and collaboration between components and the JFC. Appendix F describes time-sensitive targeting software applications and hardware, and provides TTP for their use.

h. Multinational Planning Considerations.

(1) Multinational operations bring additional complexity to planning. Effective planning is necessary to ensure smooth operations and avoid international friction. Partner nations may bring advantages in terms of niche capabilities, or conversely place restrictions that will affect US operations.

(2) There are three models under which US forces may expect to become involved with coalition partners in the time-sensitive targeting process:

(a) Fully embedded. Integration at most levels, and command elements collocated.

(b) Partially integrated. Coalition partner command elements may be dislocated.

(c) Nonintegrated. Coalition partners held at 'arm's length,' with little involvement in decisionmaking or information flow.

(3) Each of the situations above will require a different approach to planning (refer to Appendix B, Multinational Time-Sensitive Targeting Considerations, for further guidance).

3. Coordinating

a. Real Time Battlespace Coordination.

(1) Real time battlespace coordination has proven difficult due to the complexity (Figure IV-1) and fluidity of the modern battlefield. The JFC is responsible for ensuring coordination and control measures are appropriate, coordinated, and disseminated. Because of the rapid pace of modern warfare, the JFC, components, and agencies should be capable of disseminating and implementing real time target and battlespace coordination and control measures. These coordination and control measures include boundaries, FSCMs, and ACMs. Coordination and control measures should facilitate the rapid employment of weapons systems against TSTs and other targets. Cross-component coordination and control measures and procedures must be identified, disseminated, and rehearsed prior to any conflict. Additionally, JFC and component level coordination and control measures need to support one another. Note that OGAs can and will also use coordination and control measures.

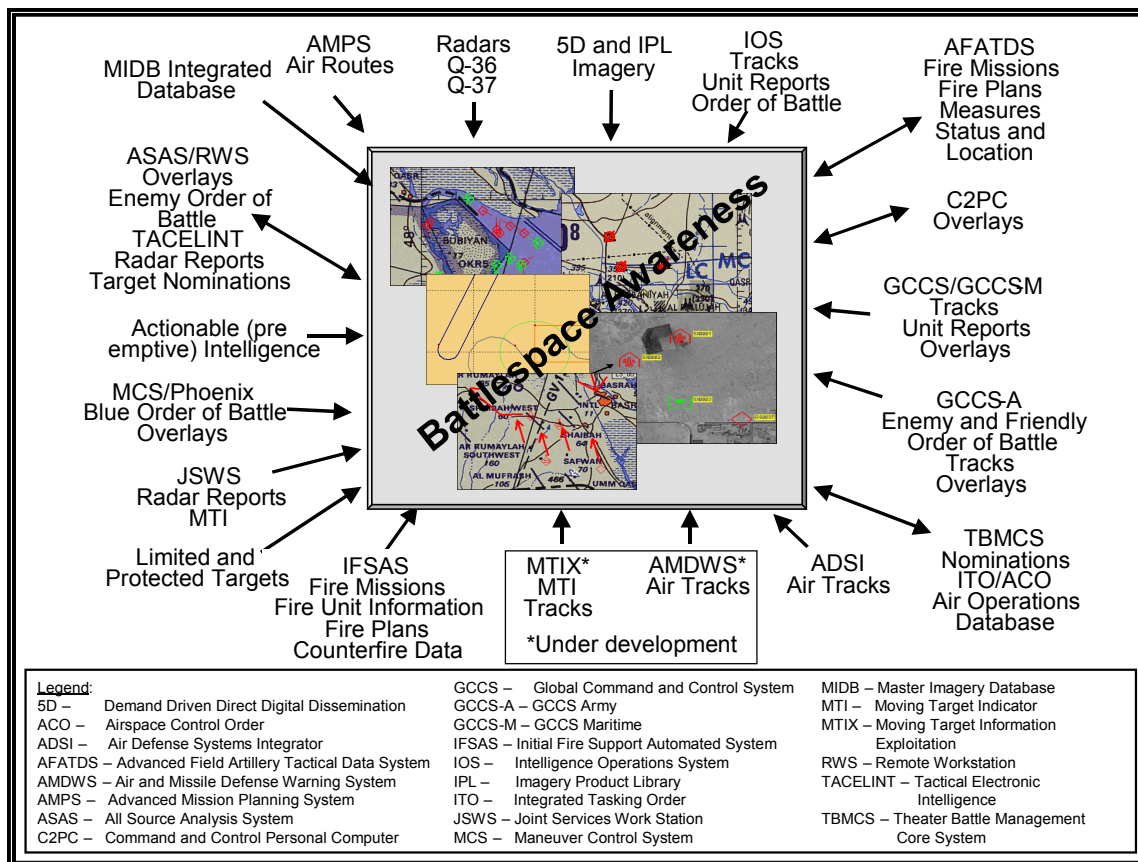


Figure IV-1. Example Service System Interfaces in Millennium Challenge 2002 Exercise

Note: During OEF and OIF, battlespace geometry was managed at the component level. A key lesson learned from those operations is that a central organization needs to be assigned the responsibility for coordinating all air, land, and maritime coordination and control measures in NRT to minimize uncertainty and delays when prosecuting TSTs. The addition of a JFE (with a TCE) at the JFC JOC would facilitate coordination and minimize confusion.

(2) The JFC may use boundaries to define operating areas for special operations, land, and maritime forces (Figure IV-2). Boundaries are maneuver coordination and control measures that define surface areas in order to facilitate coordination and deconfliction of operations. Boundaries, ACMs, and FSCMs give the JFC the ability to clearly define areas requiring coordination and deconfliction of attacks between components and units. For detailed descriptions of control measures see JP 3-09. For more information on JSOA boundaries specifically constructed to facilitate time-sensitive targeting operations, see Appendix H, Joint Special Operations Areas.

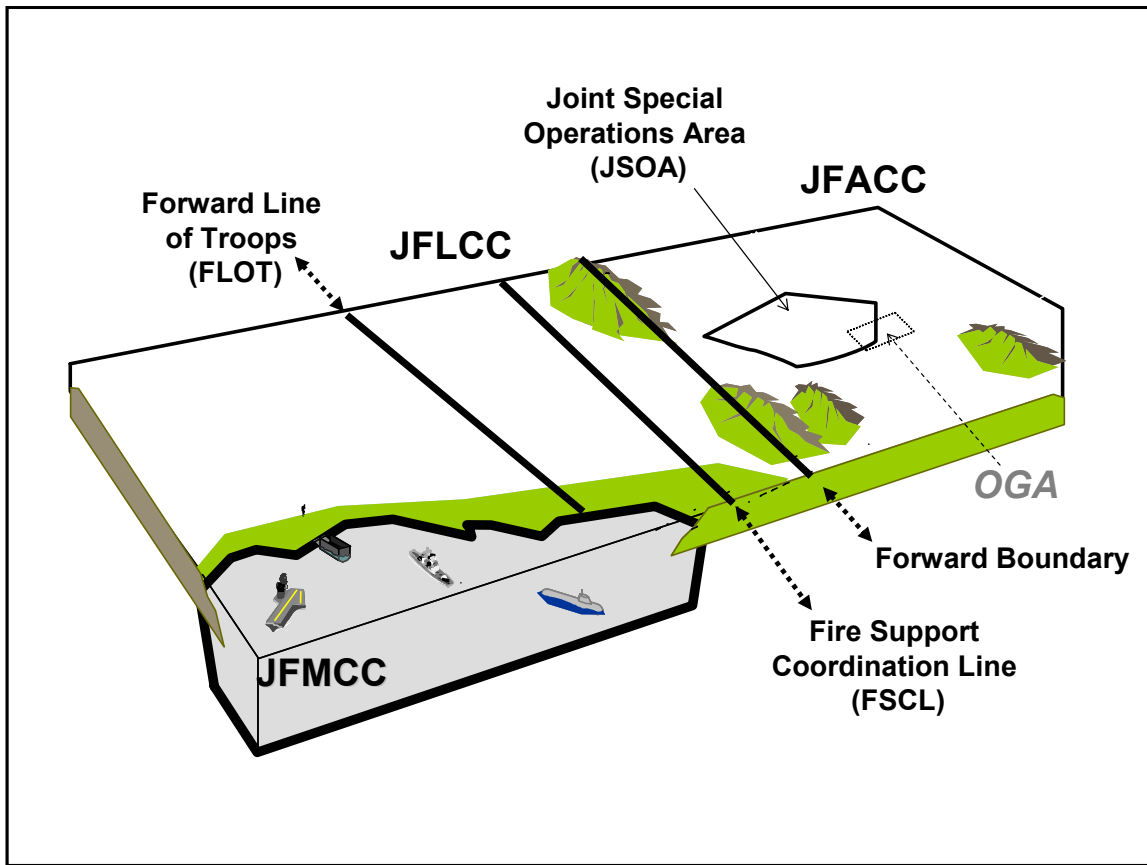


Figure IV-2. Notional Operating Areas and Battlespace Geometry

b. **Real Time Deconfliction/Coordination.** To minimize the risk of fratricide, the responsibility for the real time deconfliction of fires rests with the component or agency conducting the attack, and with the supported commander (if different). First, the target must be accurately located. Second, consideration must be given to all applicable coordination and control measures and intended or unintended effects of weapons. Third, any components or agencies with a stake near the target, or in the effects of the fires, must be consulted. This consultation may take place through a variety of methods, including face-to-face communications, digital, or media collaboration tools, SATCOM, etc. The consultation will result in a cessation of the attack, deconfliction of friendly forces, or coordination of effort to achieve the desired effect.

c. **Target Data Standardization.** Command and control execution of TSTs requires format commonality to ensure data integrity across the entire C2 spectrum. Optimally, all time-sensitive targeting participants would have access to all available target information, from the JFC to the shooter. The realities of platform capabilities and available bandwidth dictate how much target information is passed downstream, the means by which it is passed, and the format of the information. In a collaborative targeting environment, use of the same hardware and software assures that the information format is standardized. If participants are not capable of benefiting from visibility into the collaborative tools, target information must be passed either digitally

or by voice. Digital methods of transmission include Link 16, SADL, Combat Track II data link, dataSat digital two-way satellite communication system (PRC-117, PSJ-5, etc.), RPTS, and various internet applications. Table IV-1 presents time-sensitive targeting data passed on various mediums, and the format in which the data should be passed.

Table IV-1. Target Data Standards

Data Type	Standard Format	Details
Description	Free text description “MAZ 543 TEL”	This standard is largely based on output from ISR processes. The description should be as detailed as possible.
Elevation	Feet MSL (WGS 84 EGM 96)	Adjustments must be made for systems using a different datum than World Geodetic System 1984 (WGS 84). Although height above ellipsoid (HAE) is critical information used by some surface-to-surface indirect fire support systems to determine firing data, most air platforms and naval weapon systems are not equipped to use HAE information.
Location	LAT/LONG – DDMM.MMM	Degrees/Minutes/Decimal Minutes to three places (thousandths). Some weapon systems may require an additional digit of mensuration to be added (DDMM.MMMM) to function properly. <u>Note:</u> Some C2 systems, such as TBMCS, default to DDMMSS.SS. Coordinates should be translated prior to dissemination. AFATDS, ATACMS, and AH-64A require DDMMSS.SS or MGRS. OH-58D and Longbow (AH-64D) can accept both, but prefer DDMMSS.SS or MGRS.
Location Error		Link 16 track quality rules of thumb: 3 = low confidence (i.e. SIGINT ellipse) 10 = medium confidence (w/in targeting pod narrow FOV, 20-30K ft) 15 = high confidence (suitable for INS/GPS-aided weapons)
Tasking	TST Planning Card*	Link-equipped participants should use track numbers when available. Example: “Death 21, target is track 02421, three movers tracking North on a North-South hardball road in cell 7F9SW, no threats in the area.”
Digital tasking	J12.0 → J10.2 J28.2	Participants capable of sending and receiving J12.0 “engagement order” JTIDS message should use this method, as it enhances all network participants’ situational awareness. Recipients of J12.0 should respond with a J10.2 ‘wilco’ type of message to confirm receipt. C2 aircraft, and others, may be able to communicate with operational-level entities via free text message, or FTM (J28.2). This is valuable when transmitting large volumes of information.
Platform-specific capabilities	PRC-117F dataSat (HPW) Combat Track II RPTS EPLRS	Some platforms are equipped with discrete stovepiped information media. These media can enhance the ability to receive and transmit large volumes of data, but are not necessarily broadcast for general operational area awareness.
EPLRS – enhanced position location reporting system; EGM - Earth Gravity Model; FOV – field of view; HPW – high performance waveform; RPTS – rapid precision targeting system; MGRS – military grid reference system; MSL – above mean sea level * See Figure C-1 and C-2 in Appendix C for example aircrew TST planning card		

d. Common Geographic Reference System. A CGRS methodology designed to facilitate time-sensitive targeting operations and joint fires coordination and deconfliction on a rapidly changing battlefield has been successfully used in past operations. The CGRS should be applied using TBMCS, Army Battle Command System, and USMC and USN C4 systems. CGRS TTP are explained in Appendix G, Common Geographic Reference System.

e. ISR Coordination.

(1) No single Service or component is self-sufficient in ISR capabilities. Effective support to Joint/combined force operations requires a closely coordinated effort to allow

the full integration of national capabilities with operational area, JFC, and component ISR systems.

(2)ISR capabilities resident within the national system and operational area service components rely upon distributed architectures to task, collect, exploit, produce, and disseminate information in real time or NRT for a broad range of consumers at the strategic, operational, and tactical levels of operations. Centralized tasking and management of these assets to include their associated tasking, processing, exploitation, and dissemination capabilities ensures effective employment.

(3)Information must be continually shared up and down the chain of command to allow commanders to maintain SA and to change guidance or make engagement decisions as required. ISR sensors and their data will operate at multiple security levels and will come from a variety of different multinational forces. Effective time-sensitive targeting operations will require personnel from operations, intelligence, and multinational forces to pass data between these security layers in a secure and timely manner. The objective is to evolve to a fully integrated electronic architecture operating at multiple security levels concurrently, consistent with technology and available funding. ISR spans the entire F2T2EA process and continues until the desired effect is achieved and confirmed.

f. Coordination of TSTs Across Components.

(1)Coordination and deconfliction of TST attacks with all components, agencies, and other military operations is vital. This should occur across a full range of independent, joint, and combined military operations. For example, TST attacks may need to be synchronized with other fires and electronic attack to ensure adequate suppression and disruption of the enemy's defensive systems. To assist in this synchronization, there are collaborative applications that provide a "virtual" environment where TST C2 and ISR nodes can communicate and collaborate regardless of their geographic location.

(2)Collaboration prerequisites:

(a) Clear commander's guidance (see Chapter III for amplification). TTP for establishing JTF information collaboration systems and structures are available in *Multi-Service Tactics, Techniques, and Procedures For Joint Task Force Information Management (JTF IM)* (FM 6-02.85, MCRP 3-40.2A, NTTP 3-13.1.16, AFTTP(I) 3-2.22).

(b) The capability to share relevant, timely information about targets and surrounding threats, presented in a format that will facilitate rapid decisionmaking. The ability to task, collect, process, exploit and disseminate useable information (sensor data, target analysis and identification, etc.) to decision makers and shooters in NRT must exist, and must include agencies responsible for other operational time-sensitive targeting aspects.

(c) Shared COP and updated ISR information between echelons (See Figure IV-3)

(d) Procedures and support for decentralized TST prosecution.

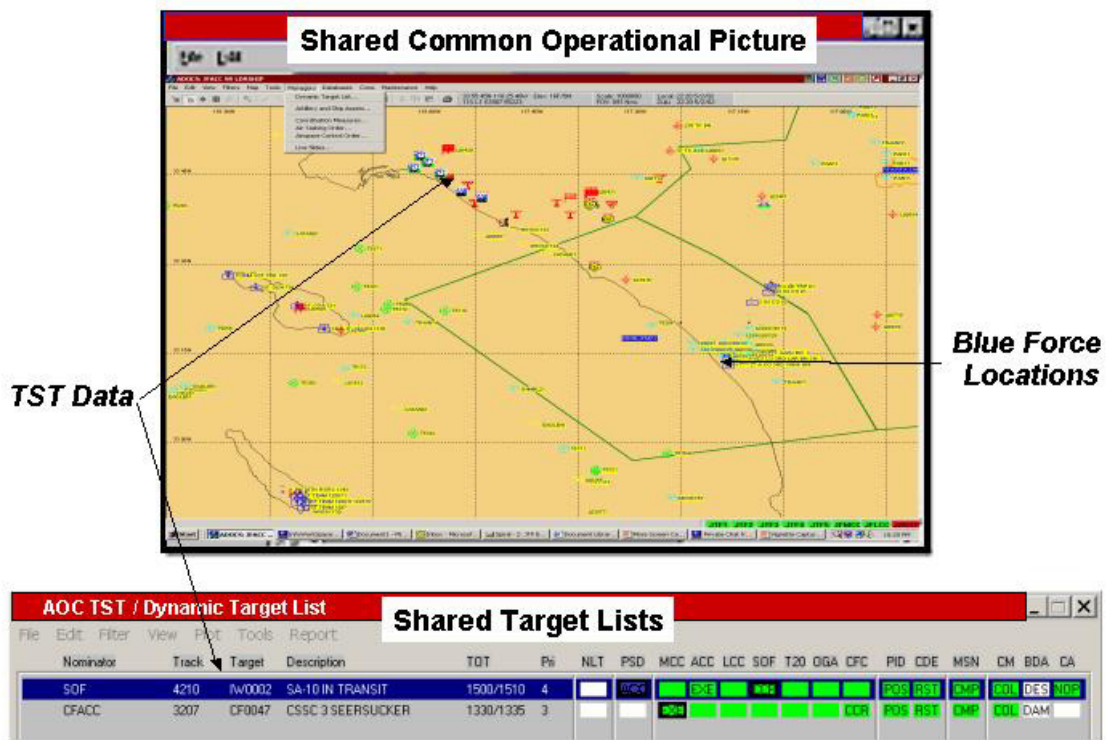


Figure IV-3. Notional Collaboration Capability using Common, Shared Displays

(3) Coordination and Collaboration Capabilities.

(a) Time-sensitive targeting operations require a dedicated and scalable TST information network, which links TST information and enables rapid dissemination of target information. Bringing components together virtually facilitates TST prosecution and integrates component time-sensitive targeting decision cycle requirements into joint procedures. The network should apply existing software applications to improve timeliness of lateral coordination and to reduce response cycle times associated with TST prosecution. A variety of software applications are in use across the operational areas, but several common capabilities are required:

- A component and cross-component TST manager (e.g. ADOCS/JTSTM)
- A collaborative chat or whiteboard capability to allow disparate C2 nodes to communicate and post TST information in real time as well as retain a log of the collaboration leading up to a TST decision and engagement.
 - JFC TCE must ensure that running chat/whiteboard communications are logged and saved periodically.
 - JFC TCE must designate a specific system for use by time-sensitive targeting elements and ensure that each element has licenses, communications, and information technology support to ensure reliable operations.

(b) A communication tool such as SIPRNET, secure telecommunications and audio/visual conferencing (see Appendix F, Time-Sensitive Targeting Collaboration Tools and TTP).

(c) Time-sensitive targeting across C2, ISR, and associated nodes is similarly facilitated by a coordination capability. A coordination tool should allow each time-sensitive targeting element to uniquely name and submit TST nominations, display common prioritized lists of TSTs along with target status, post pertinent target data, and display either concurrence or disagreement with a decision to engage. The tool must also enable the JFC to designate a responsible component for each target and arbitrate disputes between components.

(d) Another important requirement is archiving TST information in a database. Targeting data resides in several standard databases, but TSTs do not always lend themselves to standardized formats or database entry. Simply saving chat logs does not meet the minimum requirement. Saving chat logs and associated basic encyclopedia number (BE number) referenced archives are the minimum requirement.

(e) Accurate information to support TSTs is not always available in interoperable format, at appropriate classification, or with desired releaseability. The JFC should encourage components and other C2 and ISR nodes to conduct time-sensitive targeting on the SIPRNET to maximize operational availability of information; however, sensitive compartmented information collaboration channels must be in place to allow complete information sharing between responsible commanders. Multinational releaseability will be determined on a case-by-case basis, but releaseability guidance and the supporting collaboration channels should be established pre-conflict. **Most importantly, the JFC must direct component time-sensitive targeting elements to use common time-sensitive targeting collaboration and coordination tools to ensure complete interoperability within the joint force.**

4. Organizing

This section provides information on TST Cell operations and identifies organizational relationships within each component. The establishment of a TST Cell is based on recent combat operations and training exercises.

a. Component Time-Sensitive Targeting Organization.

(1) The size and scope of a component's TST Cell will depend on several variables, including size and scale of conflict, available resources, staffing, etc. As a minimum, staff the TST Cell with enough properly trained individuals to support 24-hour time-sensitive targeting operations and enable it to prosecute TSTs, component priority targets, and coordinate with other component TST Cells.

(2) As a minimum the TST Cell should be manned, trained, and equipped to execute the positions and/or functions listed below. Components should identify billets or organizations that most closely mimic or execute these positions and functions. If a deficiency in one or more of the following functions is recognized (i.e. coordinate mensuration, CDE, etc.) the TST Cell should have a process in place to coordinate with other organizations (organic or inorganic) to execute the deficient function. This should be done as early as possible in the planning process.

(a) TST Chief.

- Directs component operations of time-sensitive targeting functionality and reports to their higher HQ.
- May receive the authority to act on behalf of the component with regard to TST prosecution.
- Component's point of contact to coordinate cross-component fires for prosecution of TSTs.
- Coordinates directly with the JFC JOC TCE.
- Coordinates with other component liaisons to identify eligible ISR and strike assets.
- Monitors the current battlespace picture and situation with respect to TSTs.
- Ensures JFC and component guidance is followed, and target lists or managers reflect the most current information.

Note: In cross-component time-sensitive targeting missions, the supporting component(s) should understand and attempt to comply with the supported component commander's guidance.

- Confirms and forwards targets derived from component-level ISR for potential prosecution.
- Ensures targets are consistent with JFC and/or component-level guidance, ID criteria, risk assessment, and current ROE.
- Depending on level of centralization within the component, ensures proper TST engagement authority approval prior to mission execution.
- Ensures WMD hazard analysis is conducted and prediction results do not violate the commander's guidance and ROE.

(b) Ground Track Coordinator.

- Component-level point of contact (POC) responsible for generation, target information accuracy, track deconfliction, and currency for all joint tactical information distribution system (JTIDS), also known as Link 16, ground tracks generated from the component level to support TST and component priority target operations.
- Generates and maintains ground tracks and points derived by the component for display on the COP, as well as generating digital messages transmitted and received using JTIDS or similar equipment.
- Monitors TST track assignment/information accuracy and consistency between collaborative systems.
- Assists in the employment, management, and target location accuracy of other data link supported transmissions (i.e. RPTS, Combat Track II).
- Should be the primary communicator for the component TST Cell in the digital environment, and works closely with the voice communicator (command and control duty officer [C2DO]).

(c) Command and Control Duty Officer.

- Primary C2 position for transmission of TST targeting information to tactical-level C2 using verbal media.
- Verbalizes attack solutions derived from the attack coordination process to tactical C2.
- Relays post-attack information from the tactical C2 node to the TST Cell.
- Deconflicts limited communication resources with additional users within the component.

(d) Attack Coordinator.

- Leads the target and engage functions of the F2T2EA kill chain for assigned targets.
- Coordinates with other operations duty officers to identify the best available assets to assign against the TST.
- Takes TST and component priority targets approved by TST Chief (confirmed TSTs) and develops a “best available” weapon-target pairing of assets capable of attacking the target.
- Ensures target information used is “best available” and updated for use by the planned assets.
- Provides a prioritized attack asset list or package to the TST Chief for consideration.
- Applies ROE, CDE, COE, and PID guidance as appropriate.
- Coordinates as required with external agencies for availability of alternative attack options.
- Coordinates strike approval with required level of authority, works with appropriate C2 nodes to deconflict attack packages, and ensures detailed targeting information is passed to the prosecuting asset.

Note: The TST attack section (Attack Coordinator and Targeteer) may be modular to adapt to differing sector characteristics such as size, target density, etc. Additionally, TST attack sections should have access to liaisons of other components and agencies that may require deconfliction. These liaisons may or may not be colocated with the attack sections, but should reside within the component and be collaboratively linked to the attack section.

(e) Targeteer.

- Coordinates all ISR support to TST prosecution. The targeteer should have numerous tools available to view available attack assets to prosecute TSTs.
- Cross-correlates target management data with selected attack asset ordnance to determine if appropriate weapons load is capable of achieving the desired effect on the target.
- Conducts weaponeering tasks associated with TSTs requiring refinement of target coordinates due to weapon-type being employed or to affect multiple drops on a single target by designation of aim points.
- Works collateral damage and fratricide assessment for assigned targets for the TST team.
- Uses available tools to determine target reference and proximity to no strike or restricted target lists, ROZs, etc.

Note: CDE issues are considered in concert with the ISR, SJA, and component leadership as well as coordinated efforts with ISR for target status/restrike recommendations.

(f) ISR Section. A dedicated set of ISR support responsible portions of the Find, Fix, Track, Target, and Assess Phases of the time-sensitive targeting process.

- Provides TST and component priority target information to the TST Chief for prosecution.
- Works with the component and TST team leadership ensuring full integration of all ISR capabilities to support the time-sensitive targeting process through effective and timely coordination with both internal and external agencies.

(g) Staff Judge Advocate. Provides dedicated legal support to the TST Cell by reviewing targets for legal compliance with LOAC, ROE, CD, COE, other command guidance (such as SPINS), and coordinating with other component and JFC SJAs to resolved legal issues pertaining to targets.

(h) WMD Analyst. Provides dedicated WMD hazard analysis support to the TST Cell for all targets with the potential to contain WMD or any toxic industrial chemical/material. The WMD analyst will provide predictions on the extent of the probable hazard resulting from the conventional strike and can provide recommendations for reducing the hazard.

b. USAF JFACC TST Organization.

(1) TST Cell Design. A diagram of AFFOR AOC TST Cell positions appears in Figure IV-4. The core team is built around a modular approach that allows leadership to add capability as the situation dictates. Additional support from other AOC cells occurs using common C2 tools and processes on an as required basis. The TST Chief leads the TST Cell and is assisted by a deputy. The TST Cell includes a C2 Duty Officer, Surface Track Coordinator, and paired Attack Coordinator/Targeteer teams. The information below provides specific manning, systems, and experience level required and/or desired.

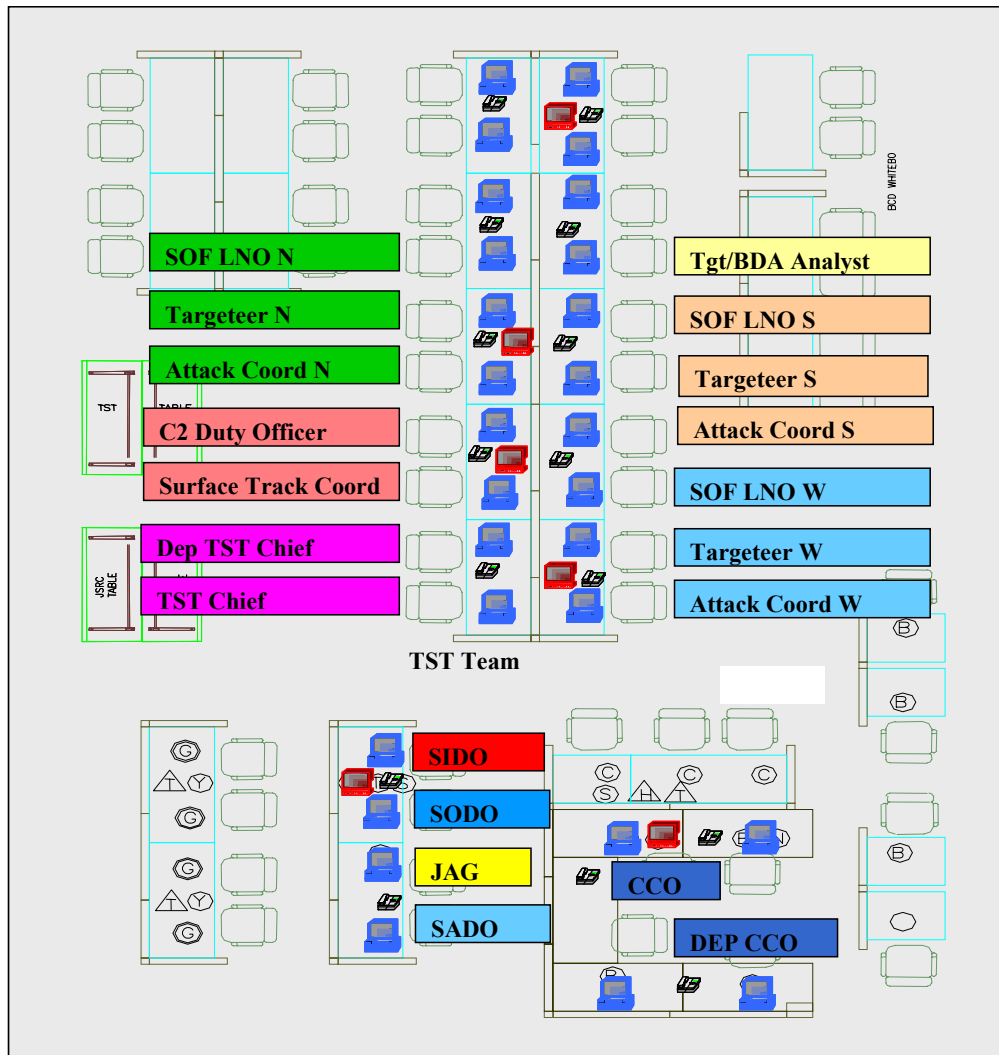


Figure IV-4. Notional AFFOR AOC TST Cell Duty Positions

(2) Required information management architectures. In any TST Cell, the ability to manage the large amounts of information effectively and have provisions in place for redundancy is critical to the success of TST prosecution. Using collaborative tools, file sharing, and force track systems to manage target information enables the effective executions of TSTs. Coordination of those systems between the various components is just as important as the systems themselves. The JFC TCE, regardless of what systems are chosen for information management, must coordinate with all components and agencies to ensure that they are using the same systems. Using the same systems minimizes system conflicts and prevents hampering of the time-sensitive targeting process. When bringing multiple components together for a joint fight, this coordination must take place in the planning phase to ensure system compatibility.

(3) Below is a brief description of the three types of information management. The goal is not to endorse a specific tool or system, rather, to delineate general

requirements for effective information management and provide contemporary examples for consideration.

(a) Collaborative tools. These are the systems by which geographically separated nodes are linked together in order to rapidly share information. This system will be used to deconflict and pass nominations and authorizations to strike TSTs. Examples of contemporary collaborative tools include ADOCS, IWS, Mardam-Bey Internet Relay Chat (mIRC), Defense Collaboration Tool Set (DCTS), NetMeeting, and video teleconference. See Appendix F for further details on the various tools.

(b) File sharing. These are systems, which allow the movement of files via differing network structures. Sharing target lists, CDE, etc. assists in the efficient prosecution of TSTs. Examples of file sharing systems include web sites, Linked Operations-Intelligence Centers Europe, and SIPRNET e-mail attachments.

(c) Force tracking systems display the COP, with a tailorable view of the current position of forces in the battlespace. The COP provides all TST Cells deconfliction information, and provides visibility on available strike assets. Current COP examples are Command and Control Personal Computer (C2PC), GCCS, ADSI, and TADIL-J (Link 16).

c. US Navy JFMCC TST Organization.

(1) The JFMCC under US Navy command will have a robust time-sensitive targeting capability over land and sea. In the maritime environment, targets at sea will be prosecuted using established procedures under the purview of tactical commanders subordinate to JFMCC. Usually this will be the Composite Warfare Commander's Sea Combat Commander.

(2) If the JFMCC operating area includes the littoral sea land interface (for example striking TSTs within the Amphibious Operating Area prior to an amphibious landing), then two organizational constructs may deal with TSTs. First, an MOC may be established on a command ship or at a shore based facility. Second, responsibility for operations may be delegated to an Expeditionary Strike Force (ESF).

(a) If working with a MOC then Current Operations will have a Fires Cell for offensive operations and a TST Cell to prosecute TSTs. For JFMCC C2 of time-sensitive targeting refer to Chapter II.

- The head of the TST Cell is the TST Watch Captain - a warfare designated officer. The Attack Section will reside in the TST Cell and will be manned with four attack coordinators for air, surface, subsurface, and land. A targeteer will reside within the TST Cell.

- Liaison elements will reside in the Current Operations floor.

(b) The JFMCC may delegate responsibility for time-sensitive targeting operations to an ESF, usually the Composite Warfare Commander. In this construct, the ESF Commander delegates responsibilities for time-sensitive targeting operations to the STWC. The STWC watch is located in the Carrier Intelligence Center and has direct access to the ISR section functionality through the SPC and the Carrier Air Wing (CVW) Targeteer. The STWC's Watch has a strike leader qualification or equivalent and will act as the TST Chief and assist the Attack Section in the Target and Engage Phases. Additionally, there will typically be an assistant to work Attack Section

responsibilities. This team will also pass voice targeting information to airborne battlefield C2 or tactical platforms. The liaison elements and SJA will typically reside on the carrier in direct contact with the carrier strike group/CVW staff. The SPC will execute responsibilities of the ISR section and has all target development tools and the ability to plan TACAIR and tomahawk land attack (cruise) missile missions.

d. Army JFLCC Time-Sensitive Targeting Organization.

(1)The DOCC FSE/TST Manager receives TST guidance and objectives from the JFLCC DOCC. He is the Corps' point of contact to coordinate cross-component fires for prosecution of TSTs; coordinates directly with the JFLCC DOCC and other component liaisons to identify available ISR and strike assets; monitors the current battlespace picture and situation with respect to TSTs; and ensures JFLCC DOCC guidance is followed. Depending on level of centralization and decentralization within the component, he ensures proper TST engagement authority approval before mission execution.

(2)The Targeting Officer/TST Manager.

- (a) Receives TST assignments from the Fire Mission Manager or JTSTM.
- (b) Determines the best attack platform for the target.
- (c) Inputs the target into the appropriate mission manager.
- (d) Transmits it to the appropriate attack platform (i.e. Army Tactical Missile System (ATACMS), Air Assets).
- (e) Leads the Target and Engage Phases of the time-sensitive targeting process for assigned targets.
- (f) Applies ROE, CD, COE, and PID guidance as appropriate.
- (g) Coordinates with external agencies for availability of alternative attack options.
- (h) Coordinates strike approval with required level of authority.
- (i) Works with appropriate C2 nodes to deconflict attack packages.
- (j) Passes detailed targeting information to the prosecuting asset.

(3)The DOCC FSE.

- (a) Primary C2 position for transmission of TST targeting information to tactical-level C2 using ADOCS or other means of communication.
- (b) Verbalizes attack solutions derived from the attack coordination process to tactical C2.
- (c) Relays post-attack information from the tactical C2 node to the Corps FSE.
- (d) Deconflicts limited communication resources with additional users within the component.

e. Marine Corps JFLCC TST Organization.

(1) The focal point for the Marine Corps time-sensitive targeting functionality is the MAGTF CE FFCC Current Fires Watch Officer who is geographically collocated with the Combat Information Center (CIC). As such, the Current Fires Watch Officer roughly equates to the generic position of “TST Chief” described above.

(2) The FFCC Current Fires Watch Officer makes decisions concerning the attack of TSTs, and the dedication of attack assets similar to the role of C2DO described above. Engagement decisions using surface fires are disseminated to the GCEs FSCC by the Surface Fires Watch Officer. Engagement decisions using naval surface fires are disseminated to naval surface fires by the Naval Surface Fires Watch Officer. The FFCC fulfills the tactical fire direction functions for TSTs as described in the above “Attack Section.”

(3) Similarly, the Air Fires Watch Officer performs subsequent C2DO and “Attack Section” functions for the coordination, deconfliction, and application of air assets. Due to the detail of target information being passed, the Air Fires Watch Officer will also have a direct digital interface (i.e. ADOCS, Outlook, Chat) with the ACE TACC. Targeting information at the TACC is primarily handled by Air Combat Intelligence, while weaponeering and attack decisions are retained in the TACC.

(4) The Current Fires Watch Officer’s primary intelligence interface is with the Reactive Targeting Officer, whose duties roughly correlate to those described under “Targeteer” above. The CIC CM coordinates and deconflicts ISR assets in support of TST prosecution, similar to those functions performed in the “ISR Section.” The CE Intelligence Battalion’s Intelligence Operations Center manages the ground order of battle or “surface tracks,” performing the function of Ground Track Coordinator described above. Unlike the generic Targeteer position, weaponeering and prioritization of engagement assets is performed by planners at either the FSCC or the TACC, depending on the asset being used for engagement. Assessment is conducted by the BDA Officer, in coordination with the Reactive Targeting Officer.

(5) Regardless of the specific organization or tools utilized, the Marine Component time-sensitive targeting capability must be able to:

(a) Integrate into the JFC TCE and other components.

(b) Request tasking/dynamic retasking of Joint and MAGTF ISR assets through the CIC in order to detect, locate, PID, and track emerging targets, and assess battle damage.

(c) Coordinate detection and nomination of emerging targets with the CIC, FFCC, GCE FSCC, ACE TACC, JFC TCE, and other component time-sensitive targeting functions.

(d) Monitor the lethal/nonlethal engagement of TSTs and priority targets IAW Joint/MAGTF Guidance through the FFCC, GCE FSCC, ACE TACC, Marine Liaison Officer, and other component time-sensitive targeting functions as necessary.

(e) Rapidly confirm TSTs and component priority targets, to include meeting the target selection standards established by:

- ROE (via the SJA).

- CDE (via Air Combat Intelligence, higher headquarters, or leveraging other component capabilities).

- PID (via the combat information center or TCE network).

- TST or component priority target criteria as established by the JFC and MAGTF Commander.

(f) Process and develop target data in coordination with the CIC and higher headquarters/other component TST Cells.

(g) Recommend reattacks to the FFCC or JFC TCE based upon engagement results and assessed damage.

f. JFSOCC TST Organization.

(1) Most SOF organizations have no standing joint fires elements or resident joint fires expertise. This section describes a notional organization with the desired staffing and experience. Each JFSOCC or subordinate CJSOTF must normally acquire or develop its own JFE.

(2) The JFSOCC JFE can split into two sections to provide expertise to both JFSOCC Current Operations and Future Operations (Figure IV-5). Current Operations JFE executes TSTs as well as immediate or preplanned fire support for missions in execution. Future Operations JFE plans and coordinates for future TSTs as well as preplanned fire support (or significant changes to missions in execution as determined by the JFSOCC JOC Chief).

JFSOCC JOC			
Current Ops		Future Ops	
JFE	Info Ops	JFE	Info Ops

Figure IV-5. JFSOCC JOC and JFE Structure

(3) Each JFE section (Current and Future) normally has similar staffing and experience although the exact number of each of the positions will vary with the scope and mission of the JFSOCC. The Intelligence Officer will coordinate all target data and red force information. JFSOCC J-2s do not ordinarily maintain a cell to generate collateral damage estimates. Most JFSOCC-nominated TSTs are prosecuted as close air support with the ground terminal attack controller conducting the CDE. For the few TSTs that the JFSOCC nominates, but cannot generate the CDE, the JFSOCC will require the supporting component to conduct the CDE prior to execution. The ground and air officers will deconflict JFSOCC forces and relay JFSOCC force capabilities to attack or assist TST prosecution. Based on the experience of the individuals involved, the JFE director will assign responsibility for specific TST information management aspects—JTSTM entries, etc.

(4) The ground and air officers deconflict JFSOCC forces and relay to the JFC TCE the JFSOCC capabilities to attack or otherwise assist in TST prosecution.

(5) In some instances, the JFACC has deployed an air coordination and control element to assist the JFSOCC JFE in controlling JFACC air support. If an air coordination and control element is used, it will work in parallel with the JFSOCC JFE to link JFACC and JFSOCC requirements. The JFSOCC or its subordinate CJSOTF(s) also deploy liaison elements and C2 nodes to other component headquarters. Some of these, such as the SOLE sent to the JFACC, have a robust ability to integrate all JFSOCC forces and staff sections to the JFACC. These liaison elements and C2 nodes enhance and may, in certain specified situations, substitute for the JFSOCC JFE functions.

(6) Subordinate CJSOTFs will normally have a single JFE located in the JOC, with appropriate fires support personnel from the JFE embedded in the JOC plans section. The CJSOTF JFE will also include ALO, FSO, Intelligence Targeteer, and communications personnel. In addition, it will include representatives from subordinate multinational units as well as LNOs from any units from other components who are providing dedicated joint fires support for CJSOTF operations.

5. Training

a. Joint/Combined Training for Time-Sensitive Targeting Operations.

(1) Recent combat operations have highlighted the fact that cross-component time-sensitive targeting operations demand a high level of understanding and process proficiency in order to complement traditional targeting operations. The complexity of contingency joint TST Cell staffing, system availability, and basic human factors results in the critical requirement for preconflict and onscene training/mission rehearsals. Training and rehearsals are required for TST Cell personnel on specific time-sensitive targeting processes, systems, applications, coordination, and collaboration. If possible, training and rehearsals should be conducted with live-event (live-fly) assets in order for all systems, data links, etc. to be exercised.

(2) As a minimum, time-sensitive targeting augmentees should arrive in an operational area with working knowledge of TTP and with hands-on experience in the systems being employed in their duty positions. Exercise battle drills should be performed with the entire combined arms team in the weeks prior to actual combat. Battle drills must include “what if” scenarios to ensure contingency capabilities are practiced and functional. TST battle drills should be integrated into battle drills for the entire operational area to ensure that all coordination functions are practiced and understood. The training reference in USJFCOM/JWFC training objective database should be reviewed (available online at: <https://www-secure.jwfc.jfcom.mil/protected/trainer.html>). This link includes suitable Universal Joint Task List and training objectives to train and trigger performance of cross-component time-sensitive targeting missions.

b. Joint Training for Specialized Time-Sensitive Targeting Operations. This section steps through a specialized training event conducted during OIF, and is a guide or example for future operations. This is followed by a list of available component formal training courses that commander’s currently have available to prepare future TST Cell members.

(1) The JFC may designate a specific TST or set of TSTs that are of such strategic or operational importance to the campaign that they may require the creation of a dedicated team comprised of one or more components. In such a case, execution success is dramatically enhanced when this specialized team performs in-depth joint training in preparation for execution. During OIF, a specialized joint/combined arms team (consisting of strike platform officers, SOF, C2 officers, ISR collection managers, intelligence analysts, and targeteers) was formed to execute the counter-SCUD mission in western Iraq. The specialized counter-SCUD team developed a detailed concept of employment that later became the *COMUSCENTAF Combined Counter-SCUD CONOPS and Playbook* that was executed during OIF (see Appendix D). The training that went into the development of this document has universal joint time-sensitive targeting execution application. The training framework revolves around a three-phased building block approach to TTP development, outlined below.

(2) Phase 1 - the Crawl Phase.

(a) The crawl phase (chair-fly or basic rock drill phase) is the first phase of specialized joint time-sensitive targeting training. It lays the foundation for future training phases and execution. The three primary goals are: give participants a basic familiarity with the mission, initial concept of operations, and basic TTPs. Participants walk through very basic scenarios, emphasizing basic execution procedures, ROE, and communication requirements throughout the process. This portion of the crawl phase highlights hardware acquisition requirements, and procedural/communication shortfalls. It also gives all participants a basic understanding of information requirements. This phase demonstrates that standardized communication formats, dedicated communication bandwidth, and datalink are critical to success. At the conclusion of this "crawl" phase, a basic concept of operations must be agreed upon and execution shortfalls or roadblocks must be identified to ensure the success of the follow-on phases of training and TTP development.

(b) The crawl phase is the first opportunity to identify specific ISR sensors applicable to the given time-sensitive targeting missions. The crawl phase for ISR involves opening dialogue with all appropriate agencies and subject matter experts (SMEs), running through scenarios, and establishing streamlined intelligence dissemination methods/paths directly to the TST Cell. In the subsequent walk and run phases, the applicable exploitation agencies (national and operational area) and sensor platforms must be integrated into the live-fly training. The ISR tasking, processing, exploitation, and dissemination procedures, tailored to the particular time-sensitive targeting mission/customer, must be exercised and improved. One of the biggest challenges for ISR is making sure the right information gets to the right customer; live exercises are the key to improving timely information flow.

(3) Phase 2 - the Walk Phase.

(a) The walk phase is the second step. The vast majority of TTPs and TST contracts and procedures are established in this phase. This phase has two parts; a continuation of the crawl phase chair fly/rock drill forum with increasing complexity and pace of execution and a transition from the chair fly/rock drill forum into the live execution portion of the training phases.

(b) The first part is accomplished with representatives from all TST execution participants in the same room walking through the scenarios, applying the ROE, and

developed TTPs. This exercise will further develop and refine TTPs, and institutionalize the developed TTPs, via repetitive TST execution drills, to the point that they become habitual.

(c) The goals of the second part are to ensure that the TTPs developed in the chair fly/rock drill translate into the execution (live fly/live maneuver) environment and to test and evaluate the collaborative tools/communications established. The training area used for this phase should replicate the actual execution environment as closely as possible. This includes replicating the numbers of airborne and/or ground strike assets, the communications architecture, C2 systems, and ISR availability.

(d) During this phase, develop sound TTPs, and then thoroughly ingrain them into the TST execution drills.

(4)Phase 3 - the Run Phase.

(a) This is the final phase of specialized time-sensitive targeting training. The purpose is to execute at real time speed with all the assets required to prosecute the TST type. At this point, participating units make minor refinements to TTPs and time-sensitive targeting contracts. In this phase, exercise the time-sensitive targeting process with the rest of the combat operations processes going as well. This will stress competing priorities of assets, coordination with multiple personnel outside the TST cell, etc. This phase is best suited to inject external influences on time-sensitive targeting execution, such as surface-to-air-threat, air-to-air threats, changes in target approval authority required (based on CD concerns for example), and/or troops-in-contact situations. These external factors may highlight flaws in TTP development if the crawl phase was inadequate. Exercise the most difficult training scenarios, requiring the greatest cross-component and other external coordination, during this phase.

(b) During this phase of training, all C2 nodes are fully manned, all communication nets and collaborative tools are fully utilized, and all execution drills are conducted with the same type/quantity of assets envisioned for the actual operation. In addition, all detailed procedures such as cueing of ISR assets, AOC TST development, and deconfliction and clearance of fires are executed to the same standard and by the same people as expected for the operation.

c. Time-Sensitive Targeting Formal Training Courses.

(1)JFCOM Joint Targeting School, Dam Neck, VA.

(a) Contact information: DSN 492-0276, or (757) 492-0276, FAX DSN 492-0280, or (757) 492-0280 (web site: SIPRNET www.jts.damneck.navy.smil.mil).

(b) Provides the Department of Defense (DOD) with formal joint targeting training for mid-career operations and intelligence personnel destined for Unified Commands, the Joint Staff, Defense Agencies, and Service designated targeting positions.

(2)505th Training Squadron (formerly the Command and Control Warrior School), 142 Hartson Street, Hurlburt Field, Florida 32544-5225.

(a) Contact information: DSN 579-7884/6237, or (850) 884-7884/6237; FAX DSN 579-5399, or (850) 884-5399 (web site: <https://505ccw.hurlburt.af.mil/505trg/505trs/>).

(b) The 505th Training Squadron conducts instruction to joint service personnel on doctrinal procedures for AOC training. Emphasizing real-world plans and procedures, the 505th is the executive agent for Contingency Theater Automated Planning System and ATO training. The 505th provides a seven-course curriculum using advanced computer systems and distributed technology, and conducts training for all ranks, from junior airmen to senior general officers. Formal Training Unit courses for AN/USQ-163 AOC weapon system are listed below (detailed course descriptions are available online).

- Joint Force Air Component Commander Course.
- Joint Aerospace Operations Senior Staff Course.
- Command and Control Warrior Advanced Course.
- Joint Aerospace Command and Control Course.
- ISR Training.
- AOC Familiarization Course.
- AOC Initial Qualification Training, Offensive Course, Defensive Course, Plans/Operations Technician Course, ISR Officers Course, ISR Technician Course, Communications Course, Joint TBMCS System Administrator Course, Interface Control Technician Course.

(3) Formal Defense Threat Reduction Agency courses for WMD COE Analysts.

(a) Trains personnel to operate the Hazard Prediction and Analysis Capability software and the Munitions Effects Assessment software effectively. Defense Threat Reduction Agency can also coordinate training for other agent defeat models such as SERPENT.

(b) Contact information: Defense Threat Reduction Agency, Consequences Assessment Branch (TDOC), 8725 John J Kingman Road MSC 6201, Ft Belvoir, VA 22060-6201, (703) 325-6106, e-mail: HPACHelp@dtra.mil , web site: http://www.dtra.mil/td/acecenter/td_hpac_fact.html.

Chapter V EXECUTION PROCEDURES

1. Time-Sensitive Targeting Execution Overview

a. This chapter details execution of the time-sensitive targeting process (Figure V-1) and procedures as covered in Chapters I through IV and presents three examples of time-sensitive targeting execution. Example checklists for the time-sensitive targeting F2T2EA Phases can be found in Appendix C, Time-Sensitive Targeting Checklists.

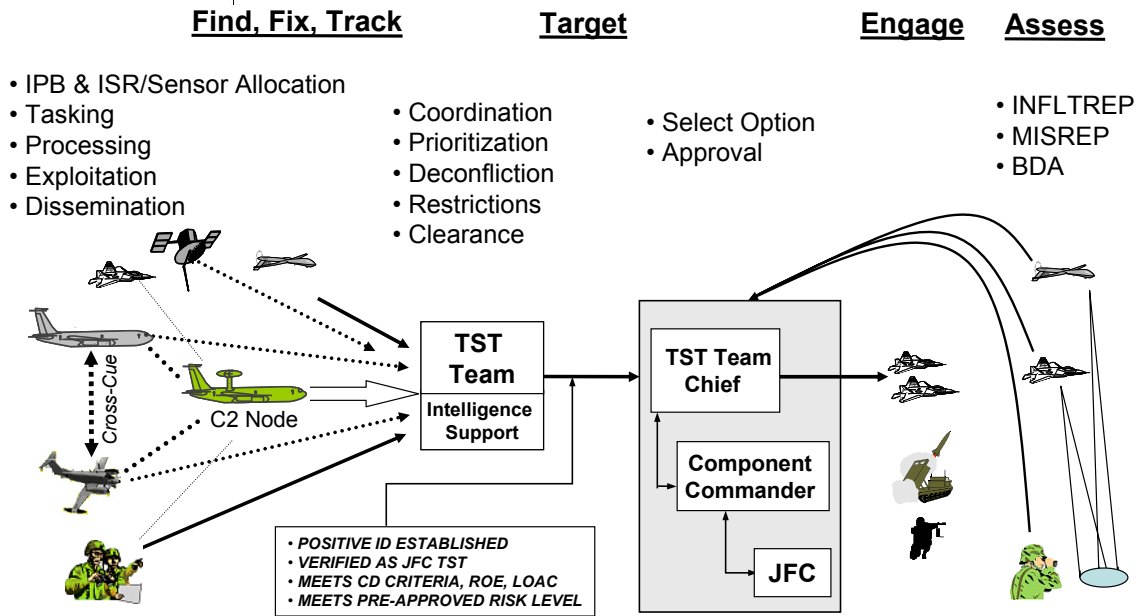


Figure V-1. Illustration of Time-Sensitive Targeting Process Execution Flow

b. JFC TST guidance drives requirements for ISR, attack assets, and other required support. Jointly coordinated alternatives maximize flexibility for dynamic selection of time-sensitive targeting forces, weapons, and sensors. The time-sensitive targeting process can occur on multiple levels, from a single strike platform to the entire operational spectrum.

2. Find Phase

a. JFC TST guidance and IPB set the conditions for a focused time-sensitive targeting process. All traditional and nontraditional sensors play a role in detecting emerging targets. Development of TST type COAs, leading to definition of NAIs and TAIs, focus sensor strategy. Commanders must balance competing requirements and develop collection plans that not only provide for the most complete coverage and support, but also provide the flexibility to task assets to detect and subsequently exploit high-priority targets when detected. All units and platforms can act as sensors to provide inputs to the Find, Fix, Track, and Assess Phases of the time-sensitive targeting process (Figures V-1 and V-2).

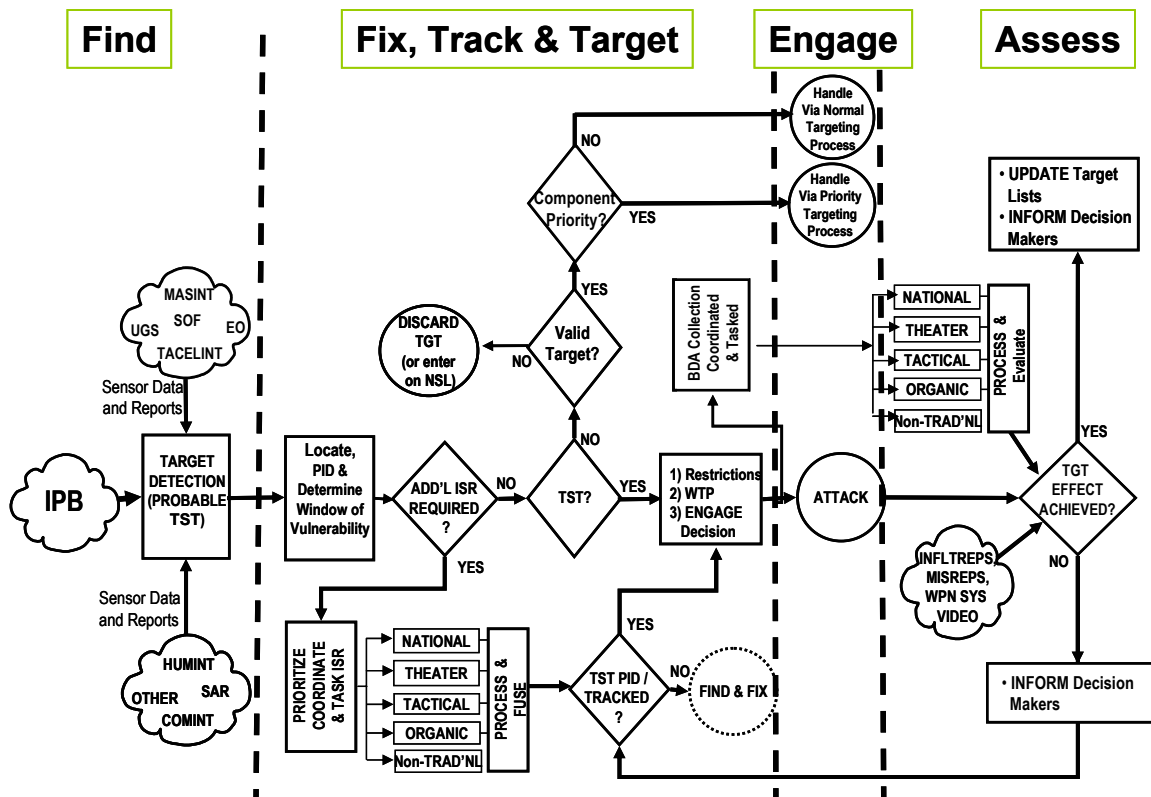


Figure V-2. Conceptual ISR Time-Sensitive Targeting Process and Subprocesses

b. TST Team actions during Time-Sensitive Targeting Process.

(1) All-source intelligence (imagery intelligence (IMINT), signals intelligence (SIGINT), measurement and signature intelligence (MASINT) and human intelligence (HUMINT), etc) correlation is an inexact, labor-intensive process requiring thorough preconflict planning. A clear understanding of ISR sensors to be employed, resulting communications, correlation, and dissemination requirements is essential for timely and accurate intelligence reporting. Refining and/or changing sensor tasking can facilitate correlation of multiple ISR tracks into one target (Figure V-2). All available sensor data should be used to identify, locate, and prioritize TSTs. Target information should be shared vertically and horizontally.

Note: All HUMINT is not the same, and should not be treated as such. TST decision makers must understand the implications of everything in the HUMINT reports, and take into account factors such as source reliability, access, and motivation because they significantly affect the quality of HUMINT reporting. A published report may not be true, or may not even be believed by the disseminating organization. Furthermore, the very nature of HUMINT can lead to misunderstandings. For example, just because a source indicates there is a “bunker” at a TST location does not immediately mean penetrating munitions are required. The “bunker” could be as simple as a slit trench with a plywood cover.

(2) IPB and GEOINT can be fused to produce intelligence with considerable value. When a target is identified operating in a potential deployment site with a TAI, the fused intelligence associated with that site should elevate the target to a probable TST (located but not positively identified) ready for the Fix phase. The Target Phase might also begin at this time due to the likelihood of ID as a TST. Close attention must be paid to not retask an ISR asset without a legitimate need.

(3) An evaluation must be performed regarding overall battlefield ISR gain/loss incurred in retasking ISR in support of TST. ISR resources are not normally dedicated to a single target set like TSTs and are often heavily tasked with competing battlespace collection needs. Total sensor timelines for tasking, processing, exploitation, and dissemination should be considered when doing sensor-to-target pairing. Target Location Error (TLE) tolerances vary by situation and weapons system capabilities and, therefore, a TLE requirement analysis should be performed before or in parallel with location or ID refinement efforts when time is critical.

(4) Close coordination between intelligence and operations personnel enables target development to the extent needed for the tactical situation (e.g. to employ a particular weapon system, etc.) and allows for expedited completion of CDE, ROE, PID, and TLE requirements. Having data link flags and alerting messages to cue other ISR assets and C2 centers to the existence of a potential TST improves response time and allows for rapid retasking of sensors that can assist with target validation, location, and identification.

3. Fix Phase

a. The input to the Fix Phase is a probable TST placed on the collaborative target management tool, such as JTSTM (typically by the lead analyst) in the Find Phase. ISR assets are selected based on ID requirements and availability. A TST may be tracked with a low fidelity sensor until one with the proper ID and geolocation capability becomes available. TSTs (and probable TSTs) are placed on the JTSTM, and component priority targets are placed on the applicable component target lists and collaborative tools. The output of the Fix Phase is an identified TST with location accuracy matched to available weapon system requirements. A TST “window of vulnerability” should be determined or estimated based upon known or estimated enemy employment timelines and tactics.

b. The following steps (guidelines not limits) can be used to determine if an emerging target is a TST and affect the ability to fix/track the TST:

(1) Determine the accuracy of location information. *Was the original location precisely identified by the exploitation agency?*

(2) Assign target description. *Is there enough detailed information, and does it match/make sense? Is there enough verifiable information to proceed?*

(3) Record the time of report. *Is the information perishable?*

(4) Validate the source. *Is it able to provide accurate PID?*

(5) Determine source reliability. *How accurate was previous reporting from this source?*

(6) Apply ROE/PID criteria. *Are there restrictions? Is there enough intelligence to support a positive identification?*

(7) Determine if additional sensors are required to maintain tracking and PID until the Engage Phase.

c. If added to a TST list, the target should be regularly evaluated for potential attack since, in many cases, the data supporting TST nomination is perishable, and target movement or rapidly changing tactical situations could alter its priority. **Most TSTs warrant dedicated sensors to keep continuous track of their movement and status during strike preparation and execution.**

4. Track Phase

a. Ideally, a TST is tracked from the moment it is entered on the JTSTM (end of Fix Phase) until the desired effect upon the TST is confirmed. One of the challenges of a TST may be its mobility. Mobile TSTs should be tracked continuously, if possible, using ISR or attack assets (nontraditional ISR). The tactical user may have to combine information from several disparate types of sensors to produce positive and confirmed identification and accurate targeting coordinates that meet weapons-quality targeting coordinate requirements. When sharing low density/high demand ISR assets, sensor-target revisit times might have to be managed while determining the targeting solutions.

b. ISR managers should consider the persistence of the collection system when identifying collection systems to support the Find, Fix, Track, and Assess Phases. The long dwell time and live video feeds provided by unmanned aerial vehicles (UAVs) often make them the systems of choice. Other benefits of UAVs are the ability to communicate directly with Forward Air Controllers (FACs) or strike assets in the target area to provide target talk-ons (infrared marking), potentially assist with laser designation, and if equipped attack the target directly. If track continuity is lost, PID, CDE, and targeting may need to be reaccomplished.

5. Target Phase

a. Major potential restrictions to engaging a target must be identified and resolved prior to or during the Target Phase. Continuous assessment of the TSTs proximity to friendly forces, NFAs, RFAs, and noncombatants is most critical during the Target and Engage Phases. Some common restrictions to target engagement are listed below:

- (1) CD restrictions.
- (2) LOAC.
- (3) ROE.
- (4) NSL.
- (5) RTL.
- (6) NFAs.
- (7) RFAs.
- (8) COE.
- (9) Additional JFC restrictions, if any.

(10) This list is not all-inclusive, nor does it have to be completed in any particular order. Many restrictions can be resolved in conjunction with the Find and Fix Phases, sometimes before a TST is even detected (as a result of IPB and GEOINT). For example, CD analysts can examine potential deployment sites and mitigate CD concerns prior to the arrival and detection of a TST.

b. When a TST is deemed “actionable,” the availability and suitability of weapons to engage the target under current tactical conditions must be determined. The TST Cell takes all these factors into account, provides a description of the TST aim point(s) and weapon collateral damage effects in enough detail and accuracy to meet weapon guidance parameters, and makes recommendations to the TST Cell chief. Considerations for targeting include:

- (1) Desired effects, to include lethal or nonlethal.
- (2) Available attack options.
- (3) Deconfliction from friendly forces and non-combatants.
- (4) Weapons-target pairing.
- (5) FSCMs and ACMs.
- (6) Restrictions to attack (LOAC, ROE, RTL, NSL, CD guidance, etc.).
- (7) Risk.

Note: Satisfying published TST restrictions can be a time consuming process that has the potential to delay TST engagement approval significantly if coordination, target development, and planning are not conducted as early as possible in the time-sensitive targeting process.

c. TST engagement options may include strike/attack aircraft, missiles (such as ATACMS and tomahawk land attack (cruise) missiles, conventional air-launched cruise missiles), artillery, naval gunfire, and direct action ground teams. For engagement of moving and rapidly relocatable TSTs, establishing kill boxes or TST engagement zones may improve success rates. Nonlethal engagement options may include electronic attacks, deceptions, psychological operations, snatch and grab raids, and computer network attacks (see Appendix E, TST ISR and Attack Resources, for details on lethal and nonlethal engagement options). Engagement prerequisites may include:

(1) Consideration of tactical situation elements such as mission, enemy, terrain and weather, troops and support available, time available and civil considerations.

(2) Developing suitable attack data for the weapon system.

(3) Updating and working additional target development requirements.

(4) Ensuring CDE meets accepted standard for chosen weapon and delivery parameters.

(5) Coordinating airspace, suppression of enemy air defenses (SEAD), C2, etc., and compiling mission data.

(6) Approving attack packages and methods.

(7) Positioning attack resources for target engagement.

(8) Tasking ISR resources for BDA and/or CA.

d. A large amount of data on recommended target aim points (e.g., a previously identified key component of a missile defense system that would render the system nonmission capable when struck) will have already been collected, and should be readily accessible in targeting databases. Analysts and targeteers will verify and use this information to make recommendations on specific aim point information that can be relayed to a weapon system. Precise location (mensuration) of urban area targets is essential for lethal weapon targeting and for CDE accomplishment, possibly an extremely time-consuming process (e.g., often, larger yield weapons often cannot be used to make up for imprecise target coordinates).

e. During the Target Phase, the TST Cell advises the commander on engagement methods after surveying the available attack assets, including other component assets possibly better suited to the task, and completing a risk assessment. Some predetermined and prearranged time-sensitive targeting responses, such as dedicated TST support sorties on an ATO, or positioning ATACMS for optimum coverage of a TST-rich NAI/TAI can be integrated into normal tasking sequences to reduce the time spent on coordination and deconfliction. If the eventual outcome is likely a TST engagement, the TST Cell may elect to “lead turn” (get ahead of) the engagement by prebriefing or positioning attack assets.

f. If the platform or system selected for engagement has the resources available to identify, track, and engage the target, then tasking may be as simple as alerting it to the presence of a TST and tasking it to engage the TST. If dedicated time-sensitive targeting assets are not available, tasking or reallocating of assets may be required. Additionally, if a strike asset is being diverted from a strike on another target, pass that information to collection and exploitation managers so that they can divert intelligence assets from an unstruck target to the TST. Retasking requires that TST Cell personnel

be proficient in force packaging and weapons management so that they can rapidly rearrange mission priorities.

g. Coordination actions may be accomplished prior to target detection or in parallel with the Target phase (targeting and tracking continues until desired effects are achieved). Parallel coordination examples include:

(1) Designated ATO mission vulnerability periods.

(2) Sending warning orders containing target data to weapon systems under consideration to engage the target.

(3) Coordinated oncall airspace deconfliction and SEAD plans that are contingent upon target identification.

(4) LNO notification and involvement in developing and synchronizing engagement options.

(5) Follow-on sensor requirements for BDA.

h. Prior to an engagement decision, the TST Cell chief must verify deconfliction with the other component commanders, OGAs (normally using collaboration tools such as JTSTM), and with multinational and unconventional forces (using coordinated methods). The TST chief or SIDO may need to rapidly coordinate with other operations and pass coordination instructions to tasked platforms/systems. The tasking may occur via voice communication to tactical C2 elements, which can then directly task weapons, or via data links.

i. If a strike requires direct support from other assets (e.g., direct feed from an ISR sensor, terminal control, spotters, SEAD, escort, or aerial refueling), it must be coordinated and tasked (See Appendix C, Time-Sensitive Targeting Checklists for applicable checklists). To ensure appropriate deconfliction at all levels, coordination and tasking instructions must be shared with airspace control authorities, commanders in the affected operating areas, and appropriate C2 authorities.

j. Commanders may have to accept an increased risk to strike a TST with a small window of vulnerability. In its simplest form, this may mean announcing the impending attack of a target or one under attack, rather than waiting for confirmation of target area deconfliction. More commonly, the risk associated with time-sensitive targeting involves the possible trade-off of diverting ISR and/or attack assets from their planned mission to that of a TST. Risks must be balanced against a target's window of vulnerability.

k. Items to be considered in the risk assessment include:

(1) Risk to friendly forces and noncombatants.

(2) Possible collateral damage.

(3) Disruption of diverting attack and ISR assets from their deliberately planned mission.

(4) Target window of vulnerability.

(5) Intelligence and operational gain/loss of TST prosecution.

l. While the JFC may accept an increased risk of fratricide and CD in attacking TSTs, this does not eliminate the requirement to try to minimize this risk during all TST engagements.

m. TSTs in urban areas are a particular concern in risk management. Coordination and deconfliction of urban targets is especially difficult due to typically small target windows of vulnerability and uncertainties with military and noncombatant personnel locations.

6. Engage Phase

a. Engagement tasking is dependent on weapons, platforms, and assets; it should go to the tasked system via the fastest medium. The tasked system may require dedicated support assets to complete the mission.

b. Coordinate Quality Terms. Components must communicate the coordinate quality confidence levels throughout the time-sensitive targeting process, and must clearly communicate the coordinate quality to ISR and attack assets. The following coordinate quality terms were developed from live-fly exercises and experiences from OIF (actual terms and definitions may differ per operational area):

(1)LOW: Coordinates derived from sources that have large associated errors (i.e. varying from an ellipse to a CGRS cell, as when derived from SIGINT assets).

(2)MEDIUM: Coordinates are not accurate for INS/GPS-aided weapons employment, but should allow target acquisition from medium altitude (20k to 30k feet) within the narrow field of view of a targeting pod centered on the coordinate.

(3)HIGH: Coordinate accuracy suitable for INS/GPS-aided weapons employment.

Note: TLE tolerances for tactical aircraft advanced targeting pods (LITENING II, LANTIRN, and SNIPER-XR) are available online via SIPRNET at <ftp://204.20.167.130/tle> or <http://www.nellis.af.smil.mil/aftp/default.htm> in the F-16 3-1 tactics manual (Vol. 5), hosted by AWFC Air & Space Tactics Center, Nellis AFB, DSN 682-3838, commercial (702) 652-3838.

c. Engagement Order Promulgation. The approval authority will make the engagement decision for the specific TST. Once the engagement decision is made, mission data must be transmitted to the appropriate C2 node (E-3 airborne warning and control system (AWACS), E-2C, etc.) for mission execution. Link 16 “J” series messages will be the primary mode of communicating engagement orders to C2 nodes and shooters. Verbal engagement orders must be transmitted to, received by, and understood by the shooter. Mission planners must provide personnel engaging TSTs with the most complete and up-to-date information available to execute successfully their assigned mission. The more detailed the information received by the shooter, the more detailed the MISREP (for example AOC-to-aircrew mission data cards, see Appendix C, Figures C-1 and C-2). MISREPs and in flight reports (INFLTREPs) are key ingredients for initial BDA. TST ISR requests must be expeditiously acted upon to allow timely BDA.

d. OIF highlighted the advantages (and challenges) of data link information transfer due to the high speed, high data volume, long range, and accuracy of digital data transfer. Transferring multiple target coordinates via voice is not only time-consuming (on a potentially saturated frequency), but can induce errors.

(1) Targeting data is ideally transferred directly from the TST Cell to the shooters, without manually entering data into a data transmission device. Optimally, data links such as Link 16, with backups of encrypted voice circuits, will carry the brunt of TST and component priority target tasking and provide updates on progress of attacks. Collection and assessment of information about the results of a TST engagement must be an integral part of engagement planning.

(2) Data link challenges included synchronizing data flow between multiple data links to multiple platforms (C2 and shooters) to avoid fratricide. Data links can easily create asynchronous information flows because a data link transmission to single or specific players does not get the word out to all players involved in the strike (e.g., some may not have compatible data link equipment).

7. Assess Phase

a. During the Assess Phase, information on the TST engagement results is collected and assessed. This process is somewhat similar to the Find and Fix Phases with the exception that the target location is known and the target is likely no longer mobile. Engagement results and associated post engagement assessments (including target damage and known/potential WMD release) should be expeditiously determined and distributed because they can have a ripple effect across ongoing strategy development and campaign planning. To minimize the impact that TST prosecution has on an overall campaign, timely notification of time-sensitive targeting actions should be provided to:

- (1) The engaging component commander.
- (2) Throughout the component operations center.
- (3) JFC TCE.
- (4) Other component TST Cells and operations centers.
- (5) OGA operations centers.
- (6) Multinational partners (and unconventional forces as appropriate).

b. The C2 system's capability to confirm the effects of an engagement on a TST must be as accurate and as close to real time as feasible. Sensor and shooters must keep key TST C2 nodes updated. Decision makers must have timely assessment to determine the need for retargeting and reallocation of assets. As a minimum, MISREPs should report which TST was targeted, and if a restrike is recommended.

(1) The assessment of engagement results has traditionally been a weak link in the time-sensitive targeting process due to a lack of emphasis, limited availability of ISR assets, insufficient training, and C2 breakdowns. During OIF, the vast majority of INFLTREPs never made it to the time-sensitive targeting decision makers.

(2) INFLTREPs, MISREPs, and shooter video reviews are usually the most timely and available feedback mechanisms. Assessment requirements, formats, and reporting

procedures should be clearly defined by the JFC and components, and must be understood and practiced by shooters, C2 nodes, and ISR personnel.

c. If specific plans for information collection on TST engagements have not been coordinated, then commanders may have to wait for the next collection cycle (i.e. next ATO day for JFACC ISR assets, etc.) to determine the status of a particular target. Rapid information sharing on current time-sensitive targeting operations (via tools such as JTSTM, COP, and interfaces with multiple types of intelligence data from current and historic databases) is vital to performing accurate CA. Access to relevant data will allow commanders to objectively assess and validate that information against known facts and intelligence feeds. OIF experiences showed that keys to successful, timely assessments include:

(1) Coordinated information collection planned to occur during or immediately following target engagement.

(2) Rapid information sharing on current time-sensitive targeting operations via a shared target manager (e.g. ADOCS JTSTM).

(3) Interfaces with multiple types of intelligence data.

(4) Standardized shooter feedback formats.

(5) Expedited feedback from shooters/sensors to TST Cell and ISR cell (via C2 links or direct via data link).

d. TST Assessment Process Summary.

(1) Lack of adequate assessment following engagement can also mean that resources are unnecessarily tasked to stand by or seek possibly inoperative or destroyed targets. Combat assessment is supported by a number of sources (including the time-sensitive targeting assets themselves) most of which are used to corroborate other information.

(2) In the case of decentralized execution, the time-sensitive targeting mission may require the engaging platform to provide initial combat assessment using its own sensor and intelligence resources. A weapon may have its own sensor (providing feedback directly to the launcher), which can verify the target and aim point right up to detonation. Other organic systems may also help verify target status. Assessment information should be shared in NRT collaboratively, for decision makers to make a timely reattack decision.

8. Time-Sensitive Targeting Execution

a. Examples of Cross-Component TST Coordination. The following three mission examples demonstrate how to implement the time-sensitive targeting process across components. The three examples explore different possibilities and illustrate key concepts in coordination and prosecution of TSTs, but are not all-inclusive.

b. Time-Sensitive Targeting Execution Example #1.

(1) A component (the JFMCC in this example) finds a TST in its designated operating area, and has an appropriate weapon-target pairing solution to engage the target. The JFMCC is the supported commander (Figure V-3).

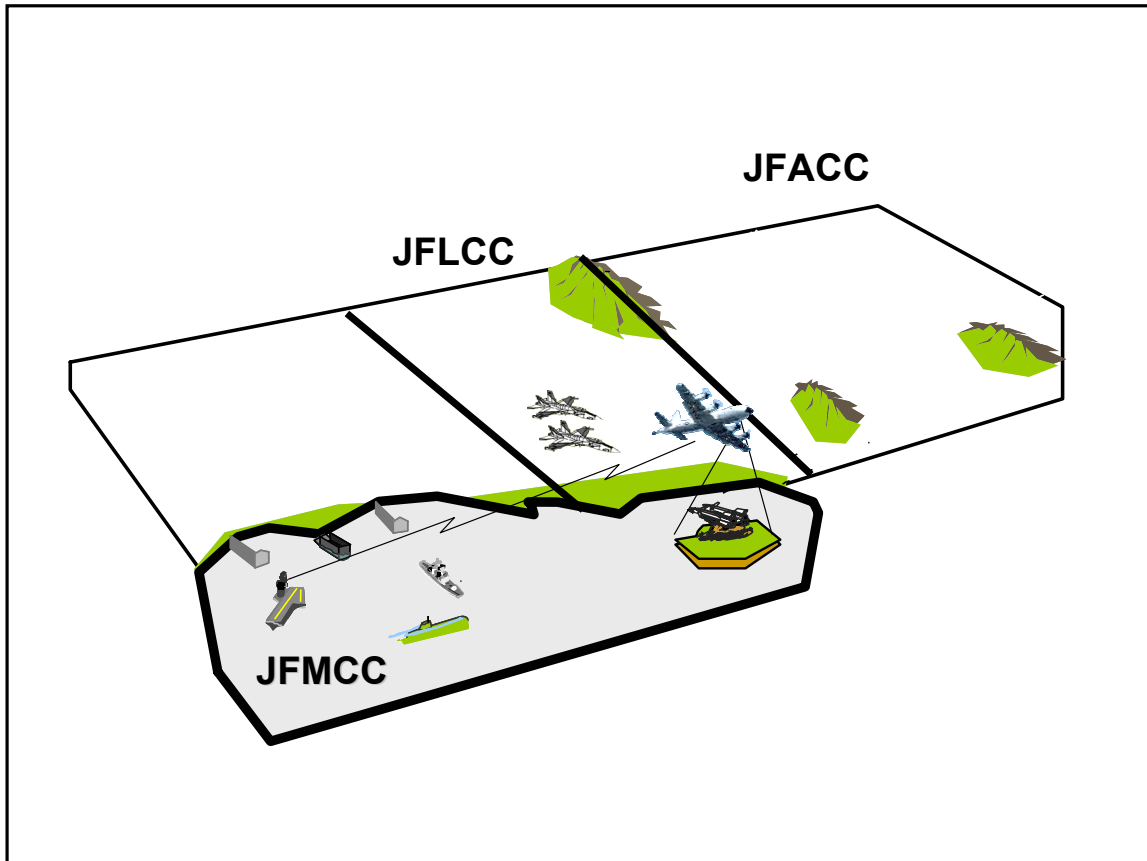


Figure V-3. Scenario for Example #1

(2) ISR Collection Process during Time-Sensitive Targeting Operations. In this example, the JFMCC has sensors focused on a littoral region seeking to locate high payoff targets operating in the area, as reported by OGA sources. A JFMCC sensor (a P-3) detects a potential TST (an unanticipated critical weapon system) within the JFMCC's operating area.

(a) The JFMCC's MOC personnel, supported by intelligence analysts, initially evaluate the data, and determine the target qualifies as a TST candidate per the JFC guidance.

(b) If the JFMCC delegates TST prosecution, the ESF supported by the SPC will likely perform analysis duties. In this case, the TST Chief will be the STWC Watch Officer.

(3) TST designation and priority is confirmed against the TST decision matrix (with the concurrence of the TST Cell Chief or STWC Watch Officer). Target

information is disseminated to the JFC and the components via JTSTM and/or other collaborative tools (Figure V-4). See Appendix F for JTSTM and collaborative tool details.

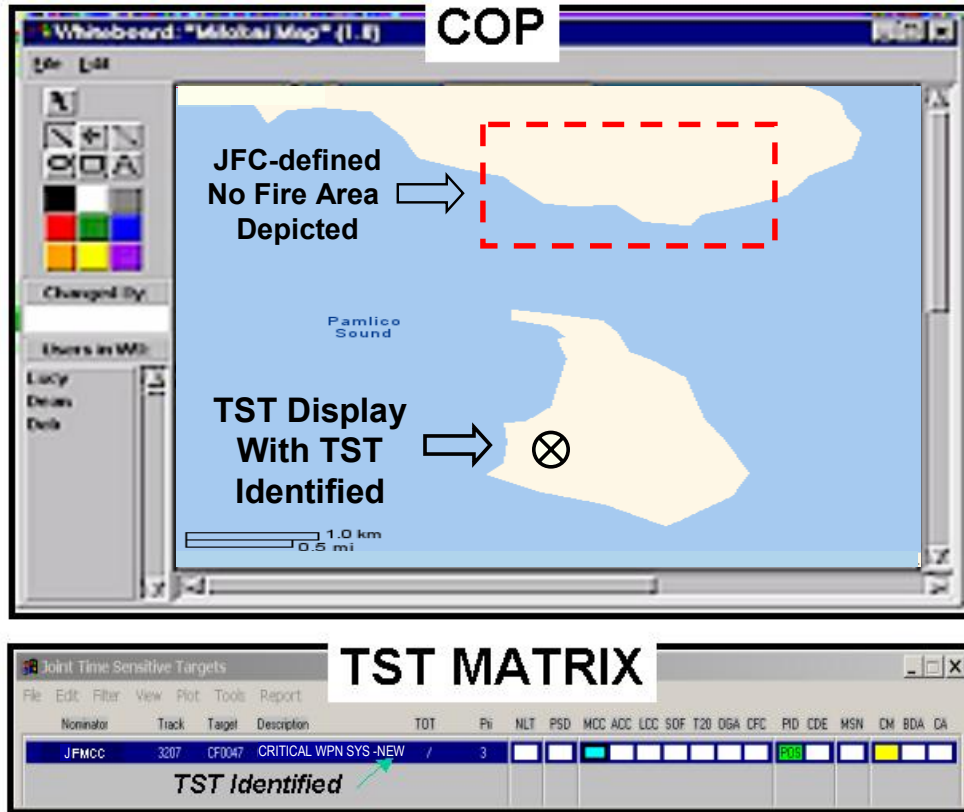


Figure V-4. Sample COP for Example #1

(4)JFMCC’s TST Cell Process during the Find, Fix, and Track Phases.

(a) The JFMCC (or SPC) targeteer indicates to the JFMCC’s TST Cell (or CVW) CM that the HPT requires additional collection. The JFMCC’s TST Cell (or CVW) CM then pairs the most capable available ISR platform with the HPT (this could include sending a fighter with targeting pod over the target). In this case, a JFMCC sensor (P-3) continues to collect data that supports weapons engagement (Track).

(b) The detecting ISR platform provides the JFMCC’s decision makers with adequate information on the proper level of identification. Target confirmation is facilitated by immediate correlation and collaboration of information from multiple P-3 sensors (e.g., electro-optical (EO), radar, and SIGINT) ensuring an accurate identification (and geolocation). PID confirmation may not be possible using only one ISR platform.

(c) In this analysis, the TST Cell decides the HPT meets the TST criteria, immediately nominates it as a TST for an internal JFMCC tasking decision, and informs the JFC TCE. The TST Cell identifies, locates, and nominates the TST for

prosecution. The JFMCC, in compliance with ROE, target area deconfliction and commanders' guidance, may prosecute the TST in a designated operating area without getting any other component commander's authorization. The JFC and other components are notified of the JFMCC's time-sensitive targeting actions. The TST Cell works together with the strike mission planners from different specialties to coordinate the appropriate response. Target information is disseminated to the JFC and other components via JTSTM/collaboration tools as illustrated in Figure V-5. In this case, no strike assistance from other components is required, but assistance is requested for a WMD hazard analysis.

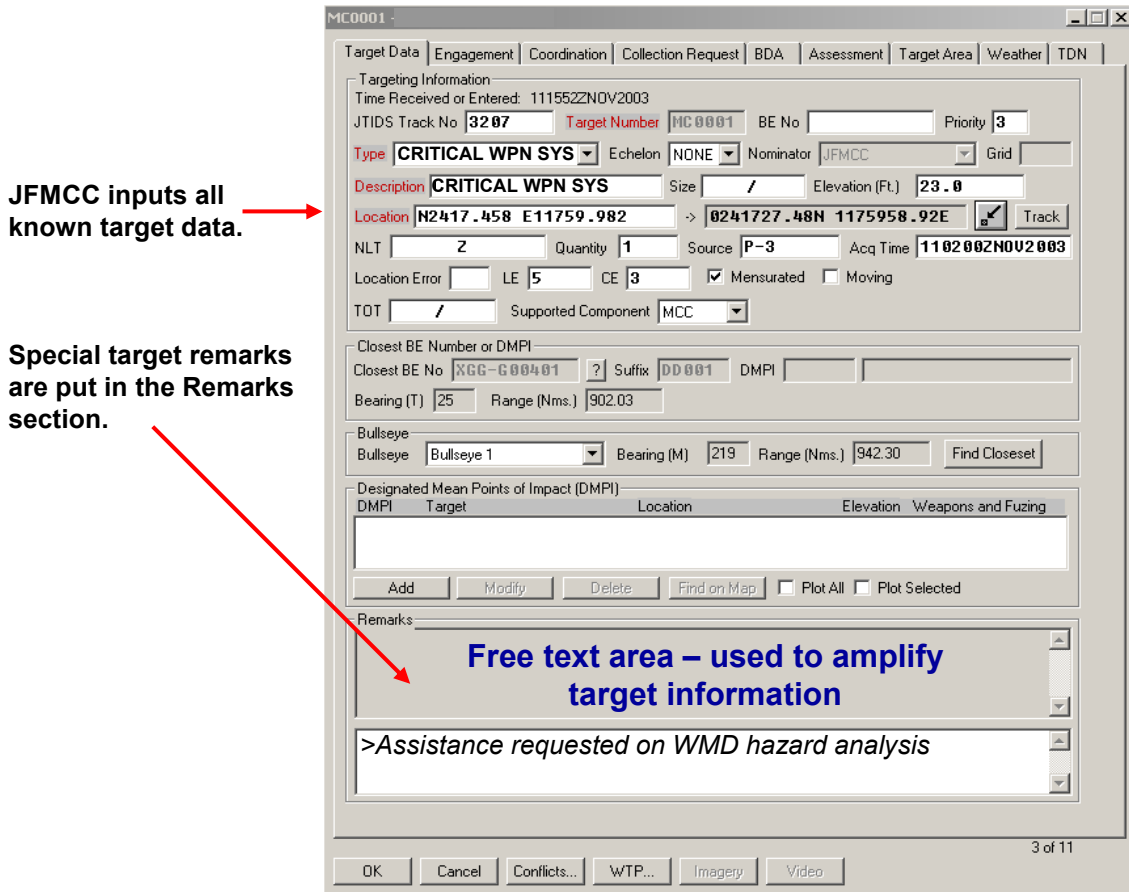


Figure V-5. Notional Collaborative Posting of Probable TST to the JFC and Components during the Find, Fix, and Track Phases

(5)The collaboration via common tools allows the components to analyze information on the TST and determine if a conflict exists. If no deconfliction issues exist (such as in this scenario), then components indicate deconfliction as illustrated in Figure V-6.

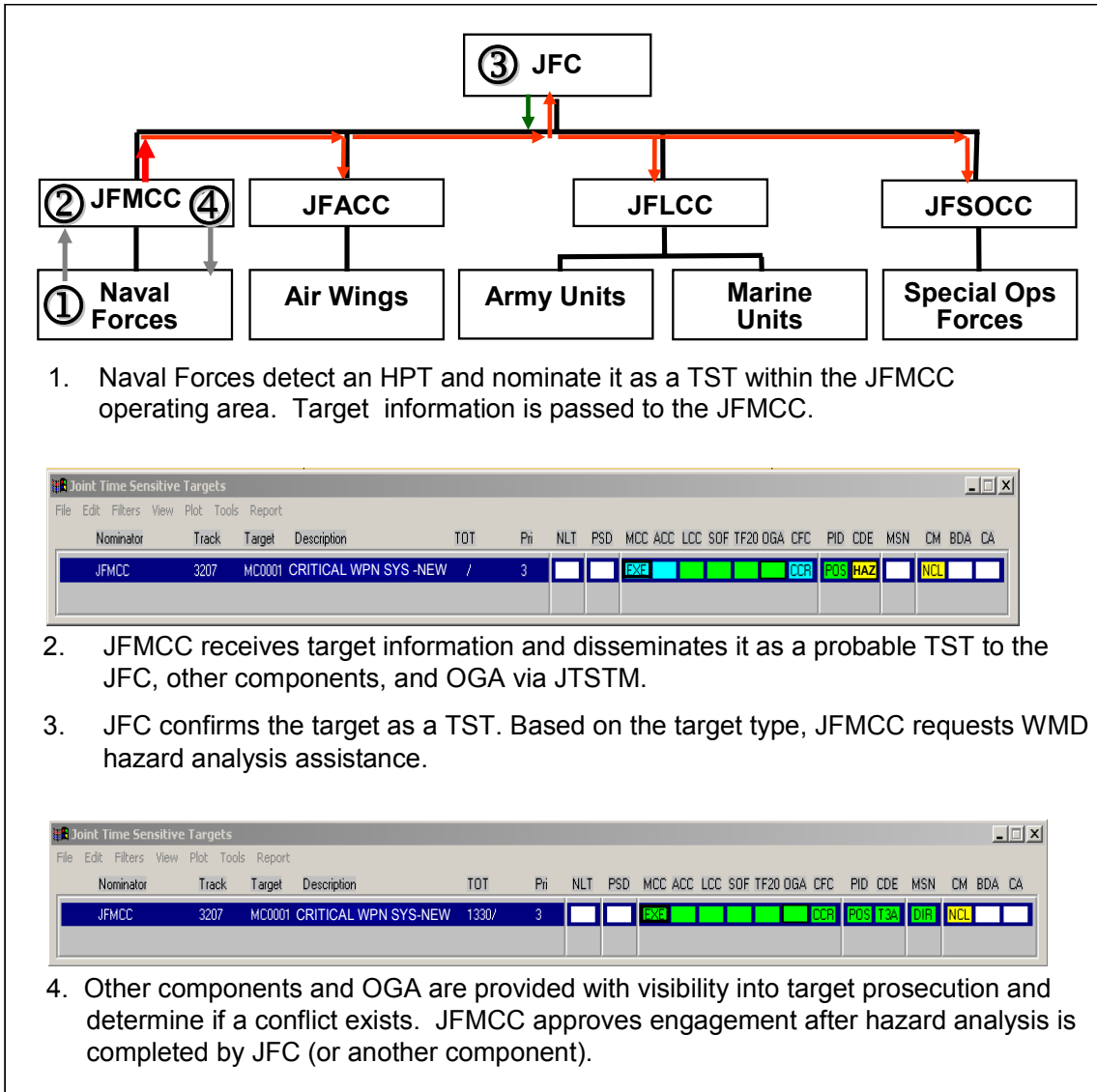


Figure V-6. Track and Target Phase Collaboration

(6)The JFC and JFMCC TST guidance determines the decision level for TST engagement. In this example, the head of the TST Cell can make the decision. Alerted by cueing and target detection, the following actions are taken within the TST Cell:

(a) TST Cell attack coordinators confirm the status of various strike assets and review the information that has gone into the mission planning.

(b) TST targeteers access applicable targeting information and intelligence (including from other components, if necessary).

(c) TST Cell chief (or STWC watch officer) assesses the relative mission priority during TST exploitation and identification.

(d) Targeteers confirm the target parameters.

(e) TST Cell chief assesses the mission priority.

(f) A WMD analyst conducts a hazard assessment, if required, given the target description, location, weapon pairing, and anticipated time of attack. Since, in this scenario, the JFMCC does not have a WMD analyst afloat in the MOC, the JFMCC TST Cell requests the JFC or JFACC WMD analyst to perform the hazard assessment and to report results via collaborative tools.

(g) CDE is accomplished. Guidelines on CD can dictate the choice of one type of weapon over another. In this case, the TST is located in an unpopulated area with no kinematics CD concerns, and has a favorable hazard assessment. As a result, the decision is made to employ an immediately available fixed-wing aircraft armed with nonprecision general-purpose munitions.

(h) TST data is updated and shared with other components to ensure visibility of the time-sensitive targeting operations. This is especially important when redirecting aircraft from another mission to a time-sensitive targeting mission, since this will have an impact on other operations. In this case, F/A-18s are diverted from another maritime mission, and thus required no additional coordination.

(i) The MOC TST Cell chief (or STWC watch officer) verifies deconfliction with the other component commanders and OGAs using the JTSTM and/or collaborative tools (and with unconventional forces using in-place methods) before making the decision to engage.

(7) Engage and Assess phases:

(a) PID, CDE, and deconfliction requirements are satisfied by the TST Cell. However, the strike platform selected is required to PID the target before employing the type of weapon carried. The MOC TST Cell chief (or STWC watch officer) passes instructions via tactical C2 (an E-2C Hawkeye). The E-2C in turn tasks a section of F/A-18s. The F/A-18s PID and engage the target, and report a direct hit on the TST via voice back through the E-2C.

(b) The E-2, via TADIL-J net A, reports the F/A-18 Bomb Hit Assessment (BHA) report to the TST Cell (or STWC) and ISR cell (or SPC). The P-3 confirms target destruction, which reports results to the MOC (or STWC) via INFLTREP. As a result, the JFMCC MOC TST Cell chief (or STWC watch officer) decides that restrike is not required and notes, via JTSTM/collaborative tools, that the target was engaged and destroyed. Finally, the TST Cell passes the preliminary mission results to a CA cell for further analysis and assessment, including post-strike hazard analysis and possible national agency analysis.

c. Time-Sensitive Targeting Execution Example #2

(1) A SOF team locates a TST in a JSOA, but they do not have the ability to prosecute (Figure V-7). The team relays target information through the JFSOCC (the supported commander) or subordinate JSOTF to the JFACC (the supporting commander) to coordinate prosecution of the TST.

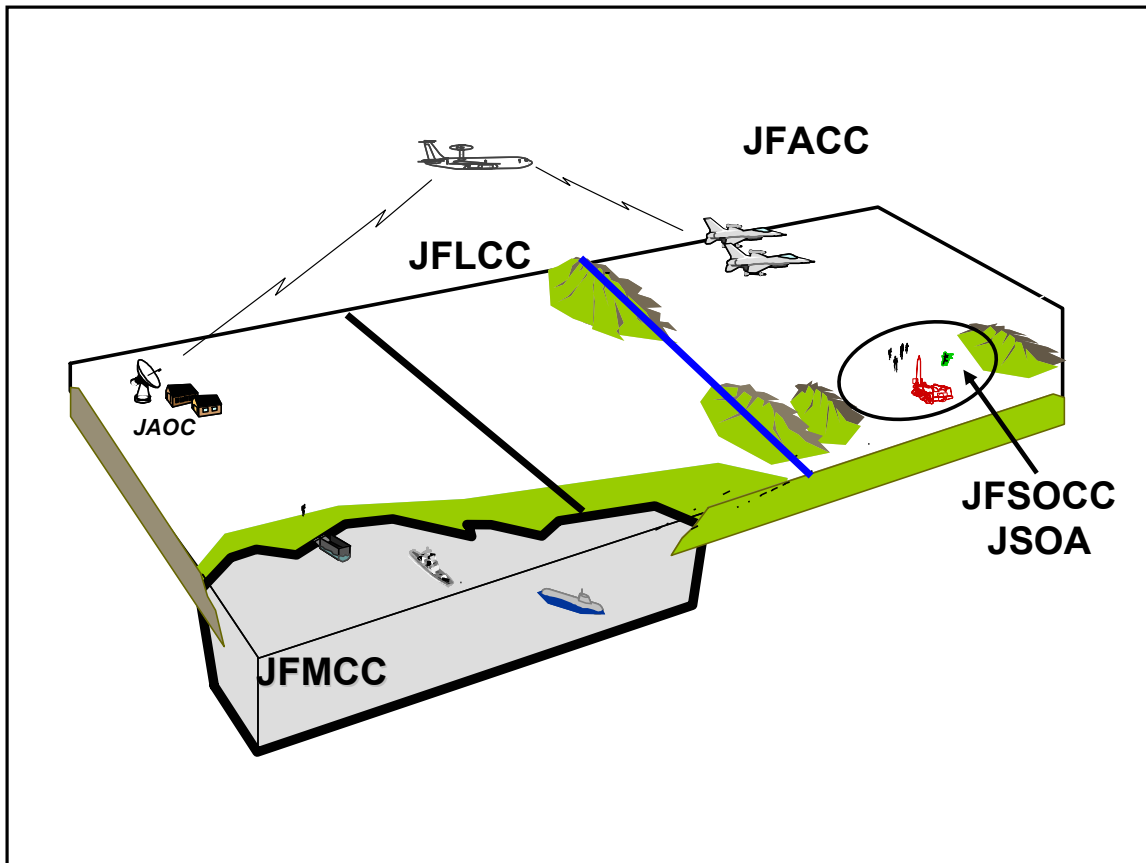


Figure V-7. Scenario for Example #2

(2) JFSOCC process during the Find, Fix, and Track Phases. In this example, JFSOCC assets detect and PID the TST (“Critical Weapon System C” in transit, see Chapter III, Table III-1) within the JSOA. The JFSOCC TST Cell (JFE) initially evaluates the data, as provided by the JSOTF JFE, determines that the target qualifies as a TST candidate per the JFC guidance, and enters it into the JTSTM. Due to several factors (including not wanting to compromise the location of the SOF team), the JFSOCC is unable to prosecute the TST, and loss of track is imminent. The JFSOCC requests assistance with Track, Target, and Engage Phases.

(3) Component Coordination during the Track and Target Phases.

(a) Using the JTSTM and/or collaborative tools, the JFSOCC JFE or JSOTF JFE (per agreed SOP) requests tracking and targeting assistance from the JFACC (Figure V-8). The JFACC accepts the request and begins prosecuting the target. If

multiple CJSOTFs exist, it is still the JFSOCC responsibility for final component deconfliction since the target remains in its operating area; however, the JFACC must still comply with JFC PID and ROE guidance.

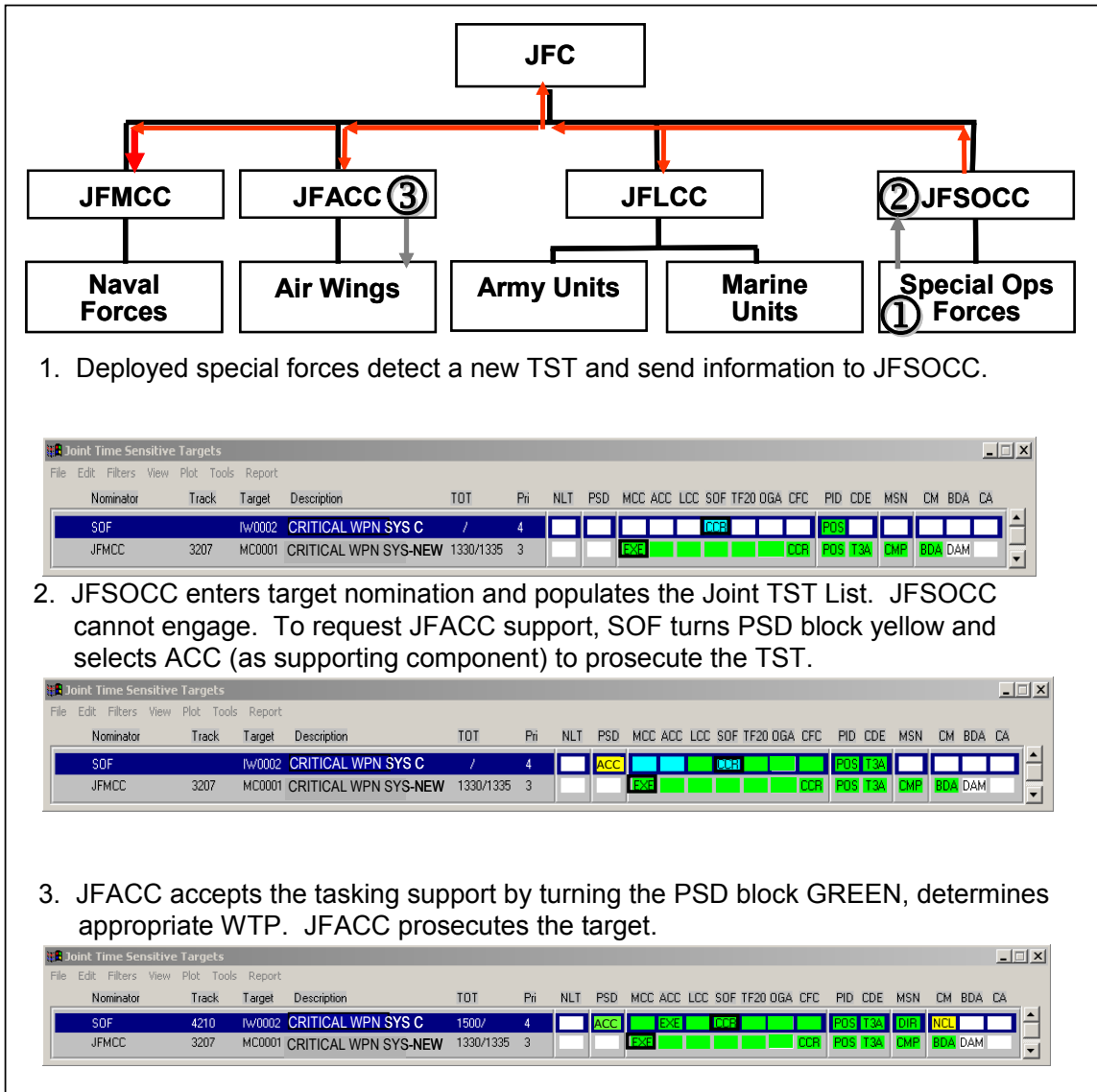


Figure V-8. Collaborative Posting of “Critical Weapon System C” TST Information

(b) The collaboration with other components discussed above is not a linear process, but rather can and should occur in parallel. For this example, the other components are provided visibility into the JFSOCC request for prosecution of the TST in transit. This collaboration allows the components to analyze information on the TST and determine if a conflict exists. If no conflict exists, then components indicate friendly force deconfliction. While it is the JFACC responsibility to determine available assets for prosecution, the JFSOCC (as the supported commander) maintains deconfliction, coordination, and strike authorization, and responsibilities within its own JSOA.

(4) Process during the Engage and Assess Phases.

(a) Since the TST is moving and track continuity is lost, the JFACC tasks two airborne alert interdiction F-16s via UHF secure radio. This communication could also be direct to the F-16s via IDM data link if proper bandwidth, connectivity and compatibility exists using the coordinated format (see Appendix C, Figures C-1 and C-2 for example JAOC-to-aircrew 14 item TST coordination card). The two-ship of F-16s find the target, obtain PID, ensure friendly deconfliction is accomplished, conduct CDE from the cockpit, and engage the TST. Off-target, the lead F-16 relays INFLTREP to AWACS via Have Quick radio, which in turn reports preliminary BDA to the JFACC (TST destroyed) via SATCOM. The JFACC then reports preliminary TST engagement results (probable target destruction) to the JFSOCC, JFC, and other components via JTSTM (BDA box turned yellow by the JFACC).

(b) By accepting the responsibility for engaging the TST, the JFACC then also assumes the responsibility for actively monitoring the progress of engagement through coordination with the various C2 nodes involved in the process. That may include C2 nodes assigned to the requesting component commander (in this case the JFSOCC). Because this is a coordinated effort, the JFACC and JFSOCC must ensure that active communication and monitoring of the engagement occurs to maximize battlespace SA and mitigate coordination errors. In certain specialized time-sensitive targeting operations, a JSOTF subordinate to the JFSOCC may be delegated authority to coordinate with the JFACC directly throughout this process, in order to provide the most rapid prosecution of the target. The use of collaborative tools is essential for providing timely cross-component coordination throughout this process.

(c) For assessment, as with engagement, the joint effort of the involved component commanders ensures that proper collection takes place. The JFACC requests CA from JFSOCC to verify the F-16 BHA/BDA reports. Fusing the two collection efforts improves post-strike assessment and provides cross-component battlespace SA. The JFC may coordinate for additional assets to aid in CA. In this case, the JFSOCC and JFACC decide that a restrike is not required (based upon the preliminary BDA). The JFC is satisfied with the no restrike decision. The JFACC directs the F-16s to a tanker aircraft to refuel and resume their airborne alert interdiction mission tasking.

d. Time-Sensitive Targeting Execution Example # 3

(1)The JFLCC detects a TST (Figure V-9) in its operating area and places the information in the JTSTM. Another organization has a reason to stop or delay the prosecution of the TST.

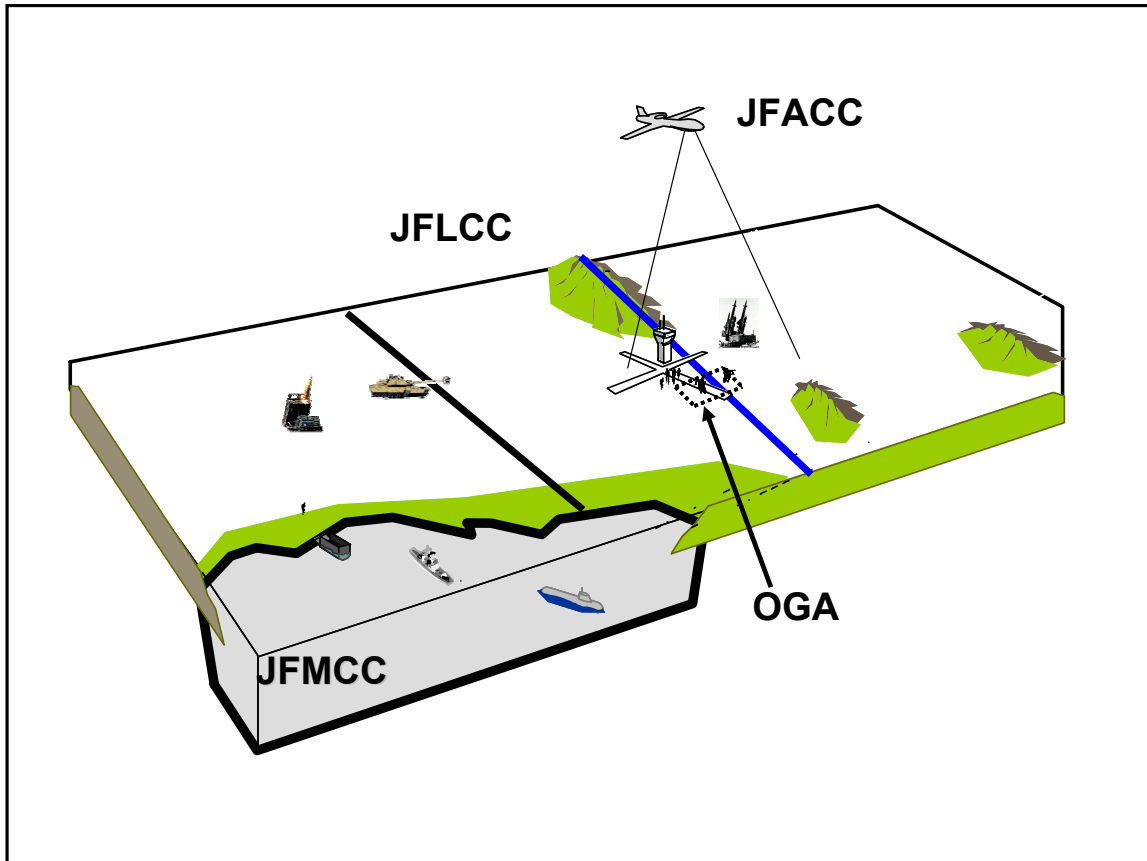


Figure V-9. Scenario for Example 3

(2)Find, Fix, and Track Phases.

(a) In mission example #3, the JFLCC receives a report of a potential TST in its operating area from a defecting enemy soldier. A cargo aircraft is currently loading personnel meeting criteria X (see JFC TST Decision Matrix, Table III-1) in a heavily defended area. After the JFLCC requests ISR assistance via collaborative tools, the JFACC dynamically retasks a Global Hawk sensor for collection on the airfield to verify the activity. JFACC ISR analysts confirm the activity, generate coordinates of the aircraft being loaded, and pass an image to the JFLCC and JFC via SIPRNET collaborative tools (or to the JFLCC via the BCD). The JFLCC completes the Find and Fix phases of the time-sensitive targeting process in conjunction with the J-2 and J-3 staff as described in execution examples 1 and 2. TST status is passed to components, JFC, and OGA via collaborative tools (Figure V-10). Tracking is ongoing from the Global Hawk.

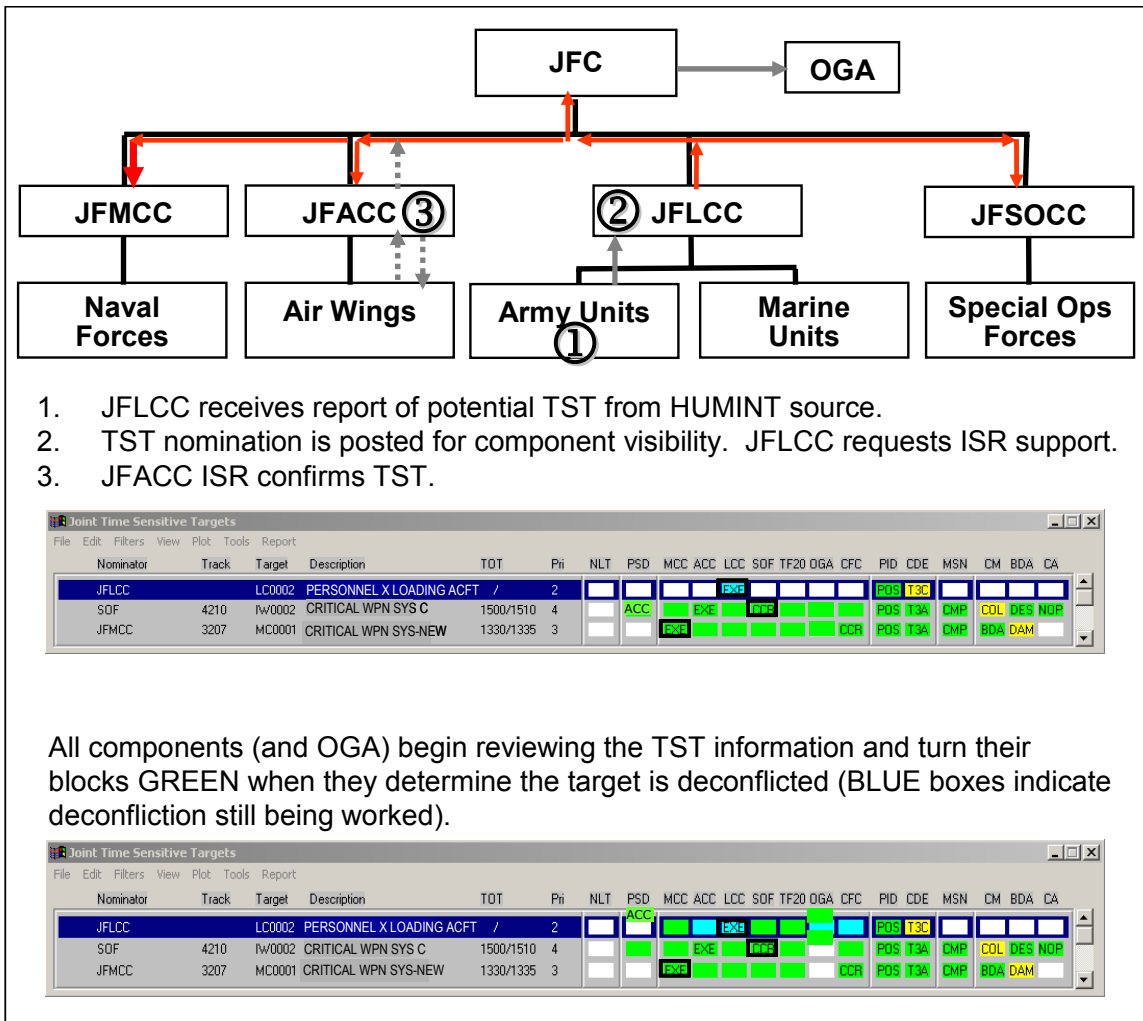


Figure V-10. Collaborative Posting of “Personnel X” TST Information

(3) Target Phase.

(a) As the JFLCC staff begins the Target Phase, all components gain visibility to the target and verify deconfliction (Figure V-11). An OGA realizes that there is a friendly team in the proposed target area. In this scenario, the OGA, through JTSTM and collaboration tools, passes that they have deconfliction issues with their assets (Figure V-11).

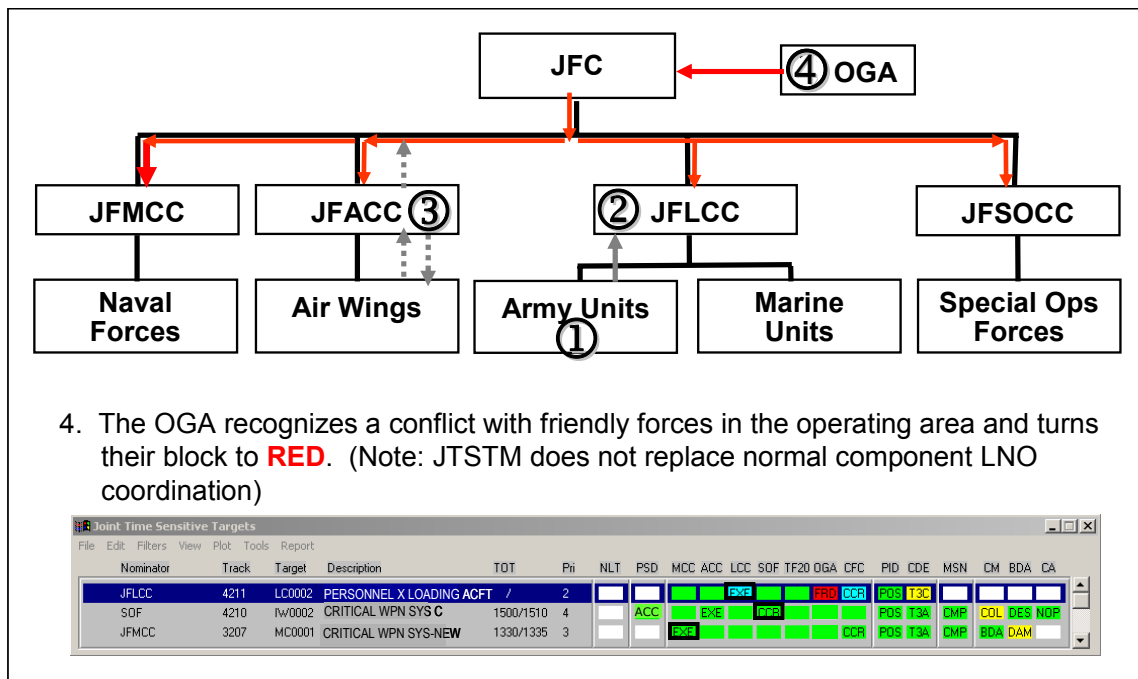


Figure V-11. Conflict Reported with Time-Sensitive Targeting Collaboration Tools.

(b) As a result, the time-sensitive targeting process does not progress to the Engage Phase until the affected components and organizations (the JFLCC and OGA) can resolve the issue or until the JFC overrides the conflict with its own directive. Through the collaborative architecture, the OGA has notified the JFLCC that their personnel can be clear of the engagement area in 20 minutes. The OGA coordination box will remain “red” in the JTSTM until the unit is clear. Deconfliction could also be achieved if the transport aircraft to take off (and leave for engagement by the JFACC).

(c) The fact that an OGA has indicated a conflict does not restrict the affected component (the JFLCC) from continuing the Target Phase and planning the Engage Phase. The intent is to work towards resolution in parallel; for the JFLCC that would include notification of assets, pre-positioning, etc., while for the OGA it would consist of approving only the use of a small warhead weapon, removing their assets from the affected area, etc.

(d) The JFC desired effect (isolate, capture, or kill) for this TST is referenced in the JFC guidance matrix (see JFC priority #2, Figure III-1). Temporary isolation might be accomplished via communications jamming (deconflicted from the OGA) or by disabling the personnel’s means to escape (deny transportation in/out of area). Capturing the personnel is likely not feasible due to the unmanned OGA presence in a high threat area, and the lack of supporting friendly ground forces in close proximity. The most feasible option is to kill the personnel X TST.

(e) Risk. The JFC guidance states high risk is acceptable for this specific TST (see Figure III-1). This may include firing ATACMS regardless of the OGA presence, asking the OGA to take direct action against the TST, or authorizing an aircraft strike without accompanying SEAD coverage. The OGA may believe the value of its asset

outweighs the military value of a strike and request cancellation of the strike. Conflicts with an OGA should be resolved at the lowest possible level (for example, between an OGA LNO and the JFC TCE). Conflict resolution may require the JFC (or J-2 or J-3) to communicate with the OGA Chief of Station directly in the AOR, SECDEF to adjudicate directly with the OGA director, or even adjudication by the President.

(f) Engagement options are explored. Multiple Launch Rocket Systems are out of range, and ATACMS is an inappropriate weapon for the target because of the large weapons footprint in the target area, which creates a conflict with the OGA personnel. An air strike using small warheads might mitigate risks to friendly forces but may fail due to the high-threat SAMs in the vicinity. Allowing the aircraft to takeoff and clear the OGA operating area, and then subsequently shooting it down, may allow the best chance for deconfliction and assured target destruction. However, in this case, strike authorization will not be granted until the conflict is resolved and approved by the OGA (unless over-ridden by the JFC or national authority). Through these deconfliction measures, the risk of fratricide is significantly reduced while still providing an effective means of prosecuting TSTs.

(4) Engage and Assess Phases.

(a) Once the conflict between the components and the OGA is resolved, then the engagement against the personnel and/or cargo plane can proceed. The Global Hawk sensor tasked to verify the TST location and track the TST might also be tasked to provide 'eyes-on' analysis of BHA and BDA.

(b) The JFLCC selects an engagement option or passes the engagement to the appropriate component based upon updates received on the TST status, OGA deconfliction progress, and available weapons.

Appendix A

SERVICE-SPECIFIC TIME-SENSITIVE TARGETING PROCEDURES WHEN ASSIGNED COMPONENT COMMAND

1. Background

The purpose of this appendix is to provide visibility into specific Service differences for component time-sensitive targeting staffing and execution procedures. For more detailed descriptions of time-sensitive targeting procedures, refer to individual Service doctrinal publications. This appendix covers the following constructs:

- a. USAF as JFACC.
- b. USN as JFACC.
- c. USMC as JFACC.
- d. US Army as JFLCC.
- e. USMC as JFLCC.
- f. USN as JFMCC.
- g. JFSOCC TST Procedures.

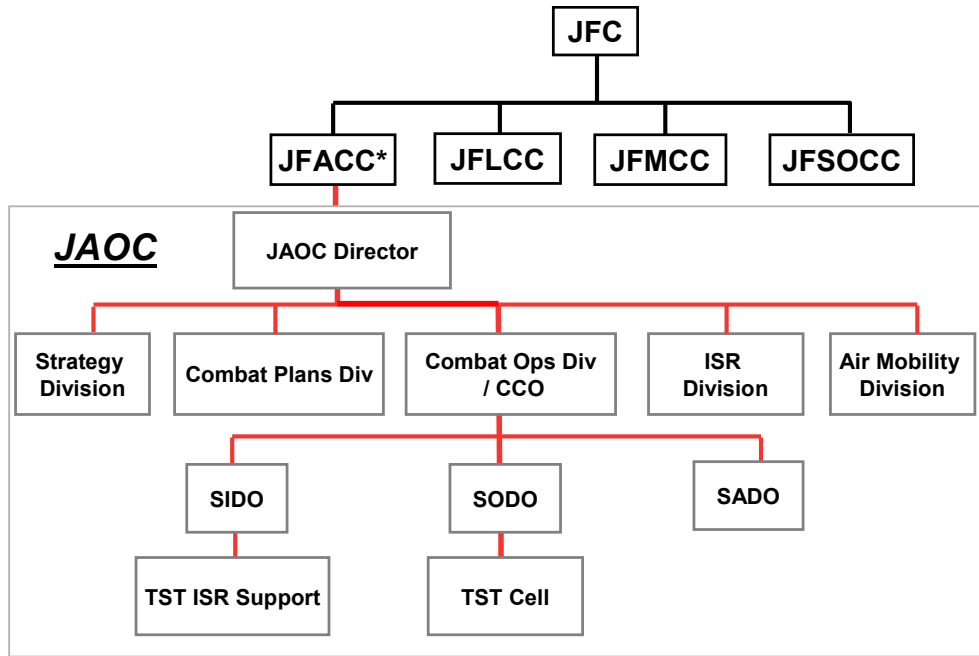
USAF AS JFACC

1. Overview

This section gives an overview of the USAF JFACC JAOC organization and team functions as they pertain to time-sensitive and priority targeting. For a detailed discussion of USAF AOC operations, refer to USAF doctrinal publications, including AFOTTP 2-3.2, *Air Operations Center*.

2. Joint Air Operations Center Organization

a. The JAOC organization, consistent with AFI 13-1 *AOC*, Vol. 3, includes a JAOC director, five divisions (Strategy, Combat Plans, Combat Operations, ISR, and Air Mobility) and multiple support/specialty teams (see Figures A-1 and A-3). Each integrates numerous disciplines in a cross-functional team approach to planning and execution. Although the Air Force provides the core staffing capability for the JAOC, other Service component commands contributing air capabilities/forces provide critical coordination, liaison, support, and personnel to the functional component organization.



**In most cases, the COMAFFOR will also be the JFACC*

Figure A-1. USAF JAOC Command Relationships (JAOC TST Cell specific)

b. The TST Cell performs time-sensitive targeting functions. The TST Cell is resident in the combat operations division of a JAOC to facilitate communications connectivity to the TST sensors, decision makers, and shooters and track the COP. The COP tailored to track TSTs, or the “TST picture,” is called the Common Relevant Operating Picture (CROP). Relevant military objects are identified, TSTs are developed, and attacks on TSTs are executed by the appropriate component as determined by JFC guidance.

c. ADOCS – Intra-AOC targeting manager (ITM) Application. The ITM provides timely targeting information and horizontal coordination among JAOC personnel during the prosecution of TST(s) and JFACC priority targets (Figure A-2). All information within the ITM can be transferred into the JTSTM (and vice versa) in order to collaborate and provide targeting visibility to other components and JFC headquarters.

Pti	Nominator	Track	Target	Description	TOT	Callsign-Acft	MSN	COA	SOF	BCD	SID	SAD	SOD	ATK	TCT	CCO	PID	CDE	CM	BDA	CA
M 1	CFACC	4567	CF0015	C2VAN	1800/1810	YANKEES01 - 2/B1			BRD		AKS	CCR					JNK	HGR	NEL		
M 2	CFACC	1234	CF0016	SCUD TEL	2000/2010	YANKEES01 - 2/B1	DIR				AKW	EKE					POS	RST			
DT	CFACC	1122	CF0017	TANK COLUMN	2100/2105	ORIOLES41 - 2/A1	CHP				EXE	FDO					POS	LOW		NTL	DES
ET	JTF		JT0001	BRIDGE	/																

Figure A-2. ITM Application

3. Time-Sensitive Targeting Support

The following discussion relates planning and execution considerations for each JAOC division that supports time-sensitive targeting.

a. Strategy Division: The strategy division is responsible for strategy plans and operational assessment (including combat assessments of results after ATO execution).

(1) Strategy Plans. The strategy division produces all the JFACC commander's guidance and intent, allocation planning, objectives, and tasks. The strategy division supports JAOC time-sensitive targeting operations as follows:

(a) Provides an "orders brief-back" to the JFACC, which includes time-sensitive targeting issues offered to the JFC. Topics include:

- Anticipated situation.
- Command relationships and liaison authority.
- Proposed TST and/or priority target missions.
- Enemy threats that may preclude or affect engagements of TSTs.

(b) Ensures the daily SPINS provides additional guidance and information to the plans and operations divisions to facilitate time-sensitive targeting, including guidance to planners on the allocation of ISR assets.

- Anticipated weapons available for time-sensitive targeting.
- Sensitive targets.
- TST missions/guidance matrix (missions as approved by JFC).
- ROE.
- Acceptable risk levels.

(c) Instructions concerning allocation of surveillance and reconnaissance assets (ISR section).

(d) Drafts and forwards inputs through the JFACC for expanded ROE recommendations to include detailed time-sensitive targeting guidance and considerations up the chain of command to the JFC Staff.

(e) Writes an addendum to the AOD for the next day's air operations, if required. The strategy addendum identifies key thresholds, strategic areas, and essential missions that must not be diverted to time-sensitive targeting use during the particular ATO day. The addendum updates the strengths, weaknesses, opportunities, and threats originally identified. This strategy addendum, if required, is included in the daily SPINS.

(2) Operational Assessment. The operational assessment team evaluates TST information from past, present, and future perspectives with the primary focus of giving the JFACC a more complete understanding of options for prosecuting TSTs during the campaign.

b. Combat Plans Division. The combat plans division is composed of three functions: Guidance, Apportionment, Tasking, and Targeting (GATT); MAAP; and ATO,

SPINS, and airspace control order (ACO) production and distribution. Time-sensitive targeting specific considerations by each function include:

(1) Guidance, Apportionment, Tasking, and Targeting. The GATT will prioritize the target list to include the priority of TSTs (as specified by the JFC), and provide sufficient guidance to ensure proper allocation and planning into the ATO. The GATT team is kept informed of the latest TST information via the Combat Plans Chief and the ISR specialty and Strategy Plans teams.

(2) MAAP and ATO production. MAAP and ATO production prioritizes TSTs; plan surveillance, reconnaissance, and weapon assets for time-sensitive targeting use; and disseminates time-sensitive targeting information on the ATO, ACO, and SPINS.

c. Intelligence, Surveillance, and Reconnaissance Division. The ISR division plans and directs support for TSTs. ISR planning in support of time-sensitive targeting includes:

(1) Allocating, by JTF HQ sufficient surveillance and reconnaissance, assets to support multi-disciplined, distributed JAOC requirements, including time-sensitive targeting.

(2) Appointing a TST Lead Analyst to coordinate collection operations management through the SIDO.

(3) Collection planning, including support to time-sensitive targeting.

(4) Allocating ISR assets for time-sensitive targeting operations, understanding that national, operational area, and JTF tasking for collection and reporting will continue.

(5) Anticipating the order of magnitude of the time-sensitive targeting effort.

(6) Assessing the enemy air and air defense threat and required ISR packaging to support time-sensitive targeting execution.

d. Combat Operations Division. Time-sensitive targeting execution is resident in the combat operations division (Figure A-3). The SODO is responsible for overall offensive operations of the JAOC through a variety of tools and works in close coordination with the TST Cell Chief. The search and rescue duty officer in the joint search and rescue cell on the combat operations floor closely coordinates with the TST Cell for support to combat search and rescue operations and personnel recovery.

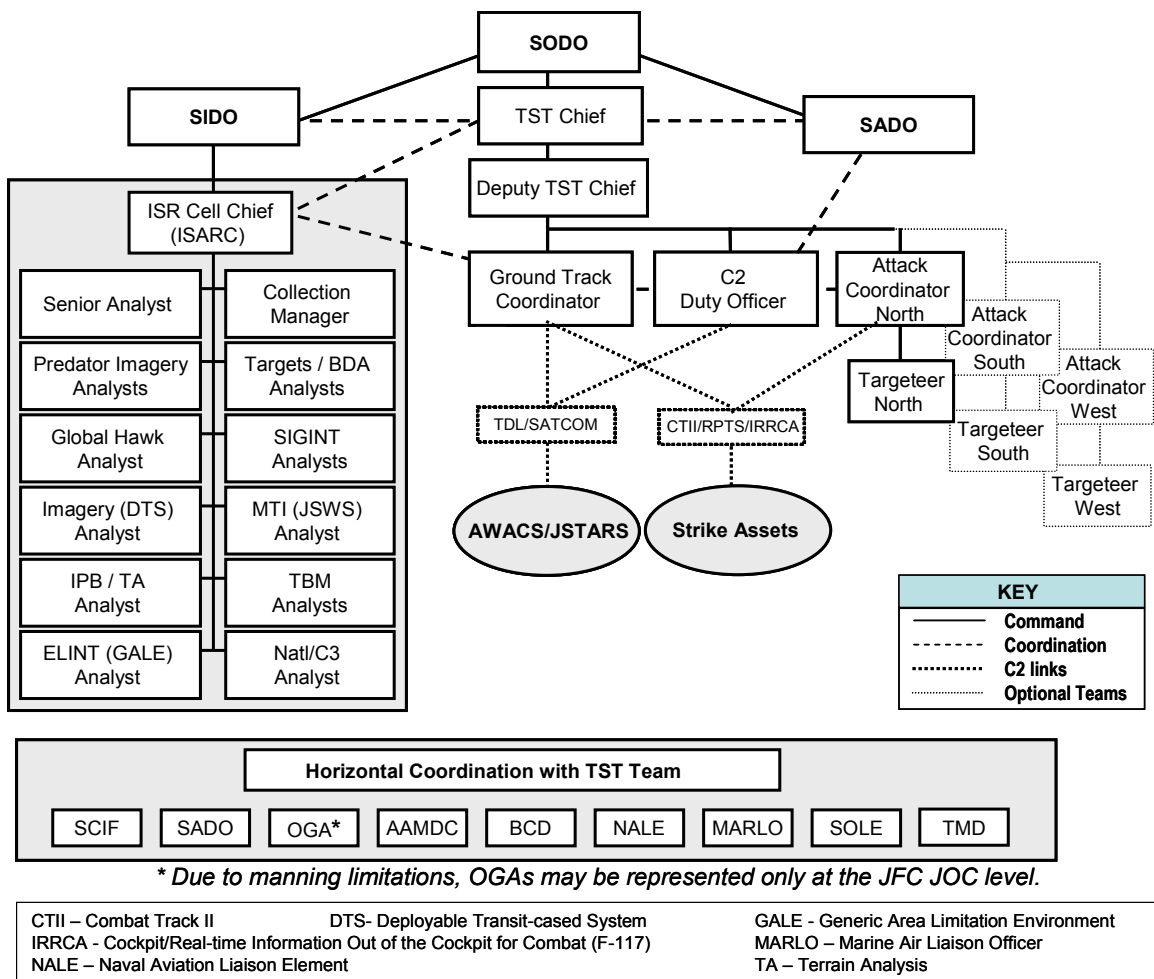


Figure A-3. USAF JAOC Offensive Operations Team Composition

e. TST Cell.

(1)The TST Cell has the expertise and tools to enable the JAOC to direct execution of TSTs, targets, emerging targets, roles, and retargets outside of preplanned targeting inside the ATO execution cycle. The TST Cell also provides support for SOF ground directed interdiction by asset identification and tasking when required. The TST Cell uses a standard set of processes and tools to enable efficient execution of multiple targets types (TSTs, HPTs, etc.) inside the ATO cycle.

(2)The TST Cell develops targeting solutions using the F2T2EA model. The TST Cell is capable of nominating or receiving targets from all stages of the model from any source. The TST Cell Chief and Deputy coordinate target solutions between Services and, when executed by the JAOC, pass the target to the appropriate attack coordinator.

(3)Each attack coordinator has a targeteer assigned for mission planning support. Depending on operational requirements, multiple attack coordinator/targeteer teams can be stood up and organized in different manners. One example of team organization

might be geographic, in which targets located in a specific geographic region are assigned to a specific attack coordinator/targeteer team (Figure A-3).

(4) Once the attack coordinator has received the target tasking, the coordination and planning process operates in parallel to the maximum extent possible. For example, upon target nomination, other coordinating teams within the JAOC proactively contribute critical information (i.e. intelligence, surveillance and reconnaissance cell (ISARC)) provides threat information and coordinate refinements, weather, target area condition, etc.). Normally, the CCO holds engagement authority unless delegated to a lower level. The engagement order is transmitted, then the Assessment Phase is accomplished to complete the process or reinitiate it.

(5) The time-sensitive targeting functions within the USAF JAOC Offensive Operations Division identified in Figure A-3 are discussed below.

(a) TST Cell Chief (Rank O-5). Aviator with fighter/bomber experience. The TST Cell Chief:

- Supervises all targeting functions under direction from the SODO.
- As the JFACC JTSTM POC, ensures coordination of cross-component fires for prosecution of TSTs.
- Ensures coordination with JFC JOC staff and other component liaisons to identify eligible ISR and strike assets.
- Monitors the current battlespace picture with respect to TSTs and advises the SODO.
- Ensures JFC, JFACC, and CCO targeting guidance are followed and the ITM information is current.
- Approves nominations for TST prosecution from the SIDO ensuring they are consistent with JFC and JFACC guidance, ID criteria, risk assessment, and current ROE.
- Approves target packages developed by the Attack Coordinator and ensures coordination with SODO prior to engagement. TST execution authority may be delegated to the TST Cell Chief in specific situations per JFC and component commander guidance.
- Coordinates with Combat Plans for specific TST Cell needs and requirements for effective execution. An example is the requirement for rapidly focused ISR, plus attack assets carrying flexible weapon loads, in pursuit of mobile SAMs.

(b) Deputy TST Cell Chief (Rank O-4). Aviator with fighter/bomber experience. The Deputy TST Cell Chief:

- Assists the TST Cell Chief in directing the operations of the TST Cell.
- Interacts with the JTSTM and supporting collaborative tools to ensure timely and accurate information is displayed and coordinated with the JTF TCE and functional component time-sensitive targeting representatives.
- Monitors JTSTM text chat for component emerging targets and validated TST information.

- When directed by TST Cell Chief, provides targeting data to ISARC for targets originating from other service components (via JTSTM).

(c) Surface Track Coordinator (STC) (Rank O-3/O-4). Monitors and manages the TST Cell Emerging Targets. The surface track coordinator:

- Is the primary POC (reporting responsibility) for the generation, target information accuracy, and currency for all JTIDS ground tracks generated from the operations floor to support time-sensitive targeting and priority targeting operations.

- As required, generates TADIL-J 3.1, 3.5, 12.0, 28.2 and/or 9.0 data link messages off the AOC floor using Situational Awareness and Assessment, ADSI, Improved Multi-link Translator and Display System, or equivalent personal computer (PC) technology.

- Ensures assignment tracking and deconfliction of TSTs originating from traditional ISR platforms, such as JSTARS, AWACS, and nontraditional ISR platforms, such as SOF, BCD, tactical aircraft, and national agencies.

- Monitors TST Cell track assignment /information accuracy and consistency between collaborative systems (Improved Multi-link Translator and Display System, ADOCS JTSTM/ITM, and IWS). Monitors TST nomination consistency against JFC and JFACC criteria for prosecution.

- Works to pass TST Cell mission tasking via data-link or other digital data nodes to maximize the machine-to-machine interface and minimize SATCOM congestion.

- Monitors airspace and FSCMs to ensure they are updated and accurately displayed on tactical decisionmaking tools for the TST Cell.

(d) Command and Control Duty Officer (Rank O-3/O-4). Battle management experience required. The C2DO is responsible for an indepth knowledge of air-ground ROE, brevity codes, weapons capabilities, ground and air deconfliction measures and knowledge of coordination procedures required for other key LNOs (BCD, Army Air and Missile Defense Command (AAMDC), Naval And Amphibious Liaison Element, Marine Liaison Officer, SOLE, and PR). The Deputy Duty Officer may require assistance from the C2DO depending on the phase of the operations.

(e) Attack Coordinator (Rank O-4). The attack coordinator functions as the mission planning cell for the assigned target types. An Attack Coordinator is paired with a targeteer to determine the best weaponeering option available, within targeting constraints. The Attack Coordinator ensures that the WTP solution provided is complete, executable, complies with ROE, and, if the target is not a TST, that assets are not pulled from a higher priority target. The final plan is presented to the TST Cell Chief for approval.

(f) Targets Duty Officer/Targeteer. The Targeteer position is teamed with an Attack Coordinator. Targeteers assist with the weaponeering solution by advising on weapons effects and ensuring compliance with collateral damage and PID requirements. The Targeteer also checks the Joint Target List and deconflicts targets from the NSL and the RTL. In most cases, the Targeteer provides mensurated target coordinates with the accuracy necessary for attack. Attack axis, weapon, and fuse restrictions are also included, if required. The Targeteers in the TST Cell work for the SODO/TST Cell Chief

while complying with the procedures established by the SIDO. The targeteer is the focal point for all ISR support required to prosecute the assigned target.

(g) Targets Technician – BDA Recorder. Monitors ATO sortie execution, ADOCS ITM (TST, Dynamic and Emerging Target tracker), collaborative tools (IWS, mIRC) and primary strike frequencies if available to enable themselves to anticipate and track BDA results from multiple sources. Inputs BDA results (INFLTREP, MISREP data, BDA phase data, etc.) into the appropriate ADOCS target managers (ITM/JTSTM). Relays appropriate BDA information to ISR Division BDA cell as directed. Recommends BDA requests on specific targets as required, focused on meeting targeting objectives.

(h) SOF and OGA LNOs. Liaisons make operational-level decisions and coordinating/deconflicting targeting support, RFAs, NFAs, and JSOAs in order to enable timely tactical operations. Due to manning constraints, OGA liaisons may be present only at the JFC JOC level vice the component level.

(i) ISR Section. The ISR Section provides TST nominations for prosecution to the TST Chief for consideration. The SIDO, working with the CCO, SODO, TST Chief, or TST Cell functional leads, and ISR functional leads, ensures full integration of all ISR capabilities to the time-sensitive targeting effort.

(j) ISR Operations Cell Chief (Rank O-4). In coordination with the SIDO, orchestrates the ISR Operations Cell support to the time-sensitive targeting effort. In coordination with the SIDO, ensures ISARC processes and products to develop target deck inputs to support time-sensitive targeting operations and to obtain update information on current TST status are sound and properly coordinated. Provides support to the SIDO to focus ISR sensors on TSTs of interest. Supervises the development of electronic time-sensitive targeting target folder and information updates for targets.

(k) Senior Analyst (Rank O-4).

- Understands enemy and friendly concepts of operations, schemes of maneuver, tactics, etc., and coordinates with the targeteer on determination of nostrike areas, ROZs, etc, to take into account collateral damage and fratricide.

- Ensures target information (coordinates) are correct and ensures target status is updated before, during, and after target attack is commenced.

- Coordinates with TST IPB Analyst to formulate expected enemy operations based upon terrain factors.

- Coordinates with the SIDO to develop target deck inputs to support time-sensitive targeting operations and to obtain update information on current TST status.

- Provides support to the SIDO to focus ISR sensors on emerging targets. Responsible for development of electronic time-sensitive targeting target folder and information updates for targets.

- Coordinates with Surface Track Coordinator providing targets to track and priority of tracking based upon JFC and JFACC TST guidance.

- In conjunction with other systems analysts, Deployable Ground Station, joint services workstation (JSWS), SIGINT and Predator cross-correlate target

detection, location, classification, and identification data and formulate final TST/target nomination for submission to the TST Chief for consideration.

(l) Collection Manager (Rank O-3). Monitors execution of current reconnaissance, surveillance, and target acquisition. Annex and adjusts the collection plan to support time-sensitive targeting operations as required. Directs rapid retasking of ISR assets assigned to the JFACC. Coordinates rapid retasking of assets not under JFACC control through appropriate channels. Receives and validates immediate collection requirements as required. Provides a timeline of imagery collection for time-sensitive targeting operations.

(m) Targets/BDA Analysts. Monitors ATO sortie execution, TST automated data processing, collaborative tools (IWS, mIRC), and primary strike frequencies, if available, to enable themselves to anticipate and track BDA results from multiple sources. Inputs BDA results (INFLTREP, MISREP data, BHA, etc.) into the appropriate TST automated data processing. Relays appropriate TST BDA information to TST Cell as directed and recommends BDA requests on specific targets.

(n) Predator Imagery (UAV) Analyst (Rank E-6). The operator monitors the live Predator video stream and coordinates with Predator LNO for detection and identification of potential TSTs. The operator provides target detection data to the time-sensitive targeting Lead Analyst and JSWS operator and collection manager as required for cross correlation with MTI when target is mobile.

(o) Global Hawk Analyst (Rank E-6). The operator monitors Global Hawk data stream and coordinates with Global Hawk LNO for detection and identification of potential TSTs. The operator provides target detection data to time sensitive targeting lead analyst and JSWS operator and collection manager as required for cross correlation with MTI when target is mobile.

(p) Imagery Analyst (U-2, National, etc.). Deployable Transit cased System-qualified Imagery Analyst. The operator receives live imagery directly from image production sources or accesses imagery via image servers, reviews/analyzes image product and provides pertinent target information to support time-sensitive targeting operations. The operator communicates directly with external image exploitation agencies as well as image exploitation capabilities resident in the AOC. The operator receives tipoffs from exploitation agencies that they are creating new imagery, where they are placing the imagery, and what they are titling the image file for rapid retrieval and review. The operator maintains awareness of the imagery collection deck progress and interacts with the sensor-controlling agency to ensure that TST specific collection requirements are serviced. Supports Senior Analyst in the development of TST specific imagery requirements.

(q) SIGINT Threat Analyst (Rank E-6). The operator maintains SIGINT situation awareness with respect to the time-sensitive targeting mission. Provides a single point of contact within the TST Cell for the rapid dissemination of highly perishable SIGINT data to support prosecution of TSTs. In response to the time-sensitive targeting mission, provides dedicated support to ISARC and SIDO by enhancing situational awareness through SIGINT derived information from both textual and automated sources such as WARGODDESS and specialized SIGINT expertise in response to ISARC and SIDO clarification requests.

(r) MTI Sensor (JSWS) Analyst. MTI/Synthetic Aperture Radar (SAR) Imagery Analyst (Rank O-3, E-6). The operator reviews JSTARS MTI and SAR, cross-correlates MTI and SAR with tactical link information, Predator video data, secondary source imagery, and automated assistance with intelligence preparation of the battlespace NAI and TAI templates to arrive at designation of a TST. Operator conducts tracking of mobile targets as required and provides information to the senior analyst for cross-cueing of other available sensors. Upon approval of the Senior Analyst, operator designates track as a TST and ensures information is automatically forwarded for WTP. Using cues from the UAV imagery analyst (Predator) and the imbedded Predator video and telemetry feed, conducts cross-cueing as necessary to identify TST activity. In addition, SIGINT data received from cryptologic technician (technical) (all versions) or via Joint Communications Processor Interface (Block 20 or higher) can be used to cross-reference against stationary rotator data received from MTI. Also retains the capability to connect to AFATDS.

(s) IPB/Terrain Analysis Analyst (Rank O-3, E-6). Accomplishes movement predictions of TSTs based on terrain, COAs, known/suspected enemy operating procedures and system capabilities and limitations. This predictive analysis supports sensor retasking, development of the collection management plan, and predictive battlespace awareness. The IPB/Terrain Analysis analyst aids in optimizing search areas for targets of interest, whose locations are uncertain at ATO generation time.

(t) TBM Analyst (Rank O-3, E-6). Maintains TBM database (e.g. suspected hide sites, SOF locations, status of collection requests, TBM infrastructure) and develops collection requirements and target nominations. Coordinates with AAMDC to support consolidated TBM picture. Conducts operational and tactical level predictive assessments on enemy's TBM capabilities and intentions.

(u) ELINT (Generic Area Limitation Environment) (Rank E-6). The operator maintains SIGINT situation awareness with respect to the TST mission. Provides pertinent operational area missile defense and tactical electronic intelligence event information to appropriate entities within the TST Cell. Information dissemination includes, but is not limited to, the following events: hostile TBM launches, unattended ground sensor detection and identification data, and hostile SAM data. Operator checks and plots latest pertinent awareness data such as FSCL, ROZ(s), and ATACMS firing line and range rings. Operator maintains liaison with the theater display terminal operator in the Sensitive Compartmented Information Facility (SCIF) for clarifying information. Operator monitors VPN and extracts pertinent cross-cue information for track updates.

(v) National/Command Control and Communications Analyst (Rank E-6). Subordinate to the Analysis Correlation and Fusion Chief or SIDO as appropriate and is responsible for managing all Political/Military/Command Control and Communications-related analysis and production issues. Produces predictive and actionable intelligence in support of the time-sensitive targeting process. Focal point for coordinating C3 issues with the Information Warfare Flight. Maintains leadership "order of battle" highlighting known facts and assessments of leadership activity and location. Liaises with intelligence personnel attached, Cryptologic Services Group/GEOINT Cell, National Geospatial-intelligence Agency, CIA, and Defense Intelligence Agency. Coordinates actionable intelligence with Combat Operations Division (ISARC)

leadership tracking and TST analysis. Assists SIGINT analyst with C2 related tracking and analysis as needed.

f. Air Mobility Division (AMD). The AMD provides integration and support of all JOA air mobility missions. Within the AMD, the team with greatest impact on the time-sensitive targeting process is the air refueling control team. The air refueling control team monitors fuel availability and coordinates air refueling planning, tasking, and scheduling to support combat airpower. A crucial limiting factor to any airborne prosecution of a TST is the fuel state of attacking assets and availability of air refueling. The air refueling control team works closely with the combat plans and combat operations divisions to ensure the availability of fuel, thereby enabling airborne assets to engage a TST when they otherwise would not be able to due to a low fuel state. Consideration is given to correlating number of reliability tankers to the number of likely TSTs.

USN AS JFACC

1. TST Team Organization

Duty positions and functions that play a major role in prosecuting TSTs are listed in more detail below. Although nearly all members are dual-hatted to fill other positions in a JAOC, these duty positions are the focal points for each specialty supporting the TST Team. Includes a list of the essential personnel required for force-level C2 and intelligence support for prosecuting TSTs within the JAOC. Some positions are in the SCIF, while others will remain in collateral spaces and interface frequently with personnel located in the SCIF.

2. Notional TST Team Composition

Note: The following “notional” diagram depicts actual positions aboard USS Mount Whitney.

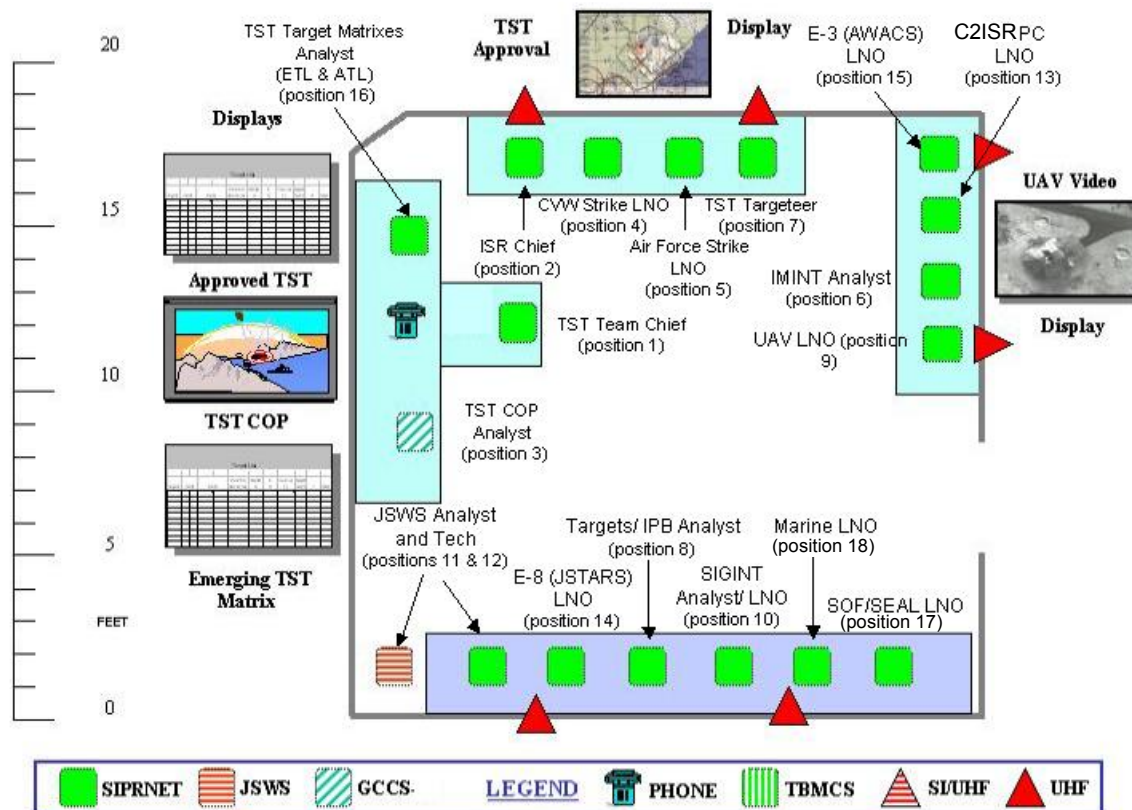


Figure A-4. Notional TST Team Positions and Nomenclature

a. **TST Team Chief** (Position 1). Specialty: Field-grade officer with extensive operational strike experience and/or C2 expertise.

(1) Responsible to strike warfare officer/strike commander/JFACC for execution of TST mission defined in ATO.

(2) Coordinates strike authorization against TSTs.

(3) Directs all aspects of TST Team operations, including target nomination, validation, approval, pairing, coordination, and execution.

(4) Briefs JFACC/Current Operations as required for time-sensitive targeting operations.

(5) Coordinates with mission elements on daily basis or more frequently.

(6) Coordinates with all mission commanders of various time-sensitive targeting elements via daily briefing.

b. TST Operations (Remote Location). Specialty: Aviator with operational strike/targeting experience.

(1) Responsible to TST Team Chief for execution of routine and additional duties as required.

(2) Coordinates with GATT, JTCB, and other daily meetings that affect time-sensitive targeting operations; through those meetings, or unilaterally if required, coordinates with various operational control agencies/commands to synchronize and deconflict time-sensitive targeting operations.

(3) Prepares and coordinates responses to, and daily debriefing for, JFACC.

(4) Coordinates with mission elements daily or more frequently.

c. Intelligence, Surveillance, and Reconnaissance Chief (Position 2). Specialty: Intelligence Officer (O-4) or Air Battle Manager with recent and extensive command, control, intelligence, surveillance, and reconnaissance (C2ISR) background.

(1) Focuses ISR analytical, targeting, and collection efforts to support JFC and JFACC targeting guidance and coordinates with other TST Team personnel to ensure effective fusion of all-source intelligence.

(2) Develops and submits inputs to the JAOC collection management plan to support TST Team objectives. Determines which available ISR asset is best suited to address potential TST.

(3) Maintains liaison with JTF, JAOC, and JIC CMs for rapid retasking requests of ISR assets not under direct control.

(4) Reviews inputs from JTF, JAOC, and JIC CMs to determine impact of TST collection requests upon current collection plans, and potential asset diversions.

(5) Accesses available IMINT, SIGINT, MASINT, and other ISR raw data and finished products to determine potential "confidence" of potential TST detections.

(6) Determines if target qualifies as a TST candidate per JIPTL and JFACC priority targets in daily guidance and intentions as well as component commanders' TST guidance.

(7) Assigns TST designations and priorities (with concurrence of TST Team Chief).

(8) Provides input to CMs, TST Team Chief and others for development, nomination, and prosecution of TSTs.

d. **TST Common Operational Picture Analyst** (Position 3). Specialty: Intelligence Specialist (IS) or Cryptologic Technician (CT).

(1) Maintains situational awareness on Global Command and Control System-Maritime (GCCS-M) concerning TST mission.

(2) Displays and maintains NRT dispositions of current battlespace picture.

(3) Provides TST Team personnel with overall air and TST ground picture to enable time-sensitive targeting recommendations.

(4) Develops and maintains displays, databases, and logs as appropriate; keeps TST bulletin board on TST Web site updated.

(5) Advises of significant changes to include air incidents/engagements, major enemy movements, changes to threat picture (e.g., changes in enemy radar parameters or operating characteristics), and trends and changes in enemy order of battle and tactics.

e. **CVW Strike LNO** (Position 4). Specialty: CVW experience, strike aircrew. Facilitates planning of TST Strike Assets.

(1) Coordinates with CVW Strike Operations and CVW LNO.

(2) Facilitates use of time-sensitive targeting sensor-to-shooter coordination.

f. **USAF Strike LNO** (Position 5). Specialty: Aircrew with fighter experience

(1) Maintains direct access to airborne USAF strike assets to facilitate time-sensitive targeting support.

(2) Works in partnership with CVW Strike LNO on assets, weapons allocation, and TST strike planning.

g. **IMINT Analyst** (Position 6). Specialty: IS with extensive Photo Interpreter/Imagery Analyst experience.

(1) Accesses all available imagery (national and airborne) pertinent to time-sensitive targeting operations.

(2) Coordinates with external imagery exploitation nodes to receive tipoffs when a potential TST is identified off imagery and passes pertinent information to the ISR Chief.

(3) Coordinates with external imagery exploitation nodes to ensure receipt of newly requested image resulting from CM tasking.

(4) Provides PID on TSTs.

(5) Provides precision locations on TSTs initially reported by UAV imagery.

(6) Coordinates imagery from external sources for TST-related events.

(7) Utilizes daily intelligence summary to search selected imagery for reported activity.

h. **TST Targeteer** (Position 7). Specialty: Intelligence Officer with extensive targeteering and weaponeering experience, preferably against TSTs.

(1) Directs operations of TST Team including target nomination, approval, pairing, coordination, and prosecution (nominations for strikes within current ATO cycle must consider weather, enemy defenses, ordnance, and probable delivery tactics).

(2) Acts as TST representative in GATT daily meetings.

i. **Targets/IPB** (Position 8). Specialty: Intelligence Officer or warrant officer with expertise in time-sensitive targeting capabilities and tactics.

(1) Fuses all-source intelligence data to support development of TST nominations.

(2) Validates mensurated points, collateral damage estimate, no strike deconfliction, and weaponeering solutions.

(3) Provides recommendations to ISR Division CM on TST collection opportunities and priorities and submits inputs to JAOC reconnaissance, surveillance, and target acquisition plan to support TST Team objectives.

(4) Reviews raw and finished TST data and provides TST predictive analysis to rest of TST Team.

(5) Provides predictive analysis to TST Team (especially to CM) for current and future ISR management of sensors.

(6) Provides support to TST Team for visualization of TST event-related activity including predicted enemy courses of action for time-sensitive targeting support.

j. **UAV LNO** (Position 9). Specialty: UAV sensor operator. Monitors UAV video to provide target detection and correlation information.

(1) Coordinates with UAV site to optimize sensor collection and reposition allocated UAV collection profiles to obtain best quality image for TSTs.

(2) Coordinates with IMINT Analyst to generate precise coordinates on TSTs from UAV product.

(3) Coordinates/captures still frame imagery products from streaming UAV video for time-sensitive targeting.

(4) Maintains direct access to UAV sensor operators in GCS to facilitate rapid reconnaissance requests to support time-sensitive targeting.

(5) Disseminates selected UAV imagery products to imagery server.

k. **SIGINT Analyst/LNO** (Position 10). Specialty: Reconnaissance aircrew member. Maintains direct access to AF reconnaissance aircraft to facilitate rapid reconnaissance sensor tasking required to support prosecution of potential TSTs.

l. **JSWS Analyst and Technician** (Position 11, 12). Specialty: Joint STARS JSWS Operator.

(1) Reviews J STARS MTI/SAR data and provides target detection/correlation information to ISR Chief.

(2) Maintains capability to provide cross-correlation with UAV video, National Imagery, and Fast Tactical Imagery.

m. **C2ISR Package Commander LNO** (Position 13). Specialty: E-2C aircrew member. Maintains direct access to airborne E-2C Hawkeye aircraft to facilitate rapid reconnaissance tasking to support prosecution of potential TSTs.

n. **E-8 (JSTARS) LNO** (Position 14). Specialty: E-8 Mission Crew Officer, (O-3/O-4), Senior Director- or Mission Crew Commander-qualified, C2ISR package commander training or experience. Maintains direct access to airborne E-8 aircraft to facilitate rapid reconnaissance tasking required to support prosecution of potential TSTs.

o. **E-3 AWACS LNO** (Position 15). Specialty: E-3 AWACS mission crew commander.

(1) Ideally, trained as C2ISR package commander, since E-3 AWACS LNO can be a TST Team mission commander for a particular day.

(2) Maintains direct access to airborne E-3 AWACS aircraft to facilitate rapid reconnaissance tasking required to support prosecution of potential TSTs.

p. **TST Target Matrices (target lists) Analyst** (Position 16). Specialty: IS/CT.

(1) Maintains target lists.

(2) Provides TST Team personnel with overall updated information on TSTs located on the target lists.

(3) Keeps TST Lists updated on appropriate bulletin boards on TST Web site and collaborative tool.

q. **Sea, Air, Land (SEAL) LNO** (Position 17). Specialty: SEAL experience. Maintains liaison between SEAL Operations/SEAL reconnaissance teams to facilitate rapid reconnaissance tasking and support prosecution of potential TSTs.

r. **Special Operations Forces (SOF) LNO** (Position 17). Specialty: SOF experience. Maintains direct access to SOF long-range reconnaissance teams to facilitate rapid reconnaissance tasking required to support prosecution of potential TSTs.

s. **Intelligence CM** (Remote Location). Specialty: Intelligence Officer with collection management background.

(1) Develops and submits inputs to JAOC collection management plan to support TST Team objectives.

(2) Reviews preplanned collection priorities, displays current day's collection coverage, and updates and uses this data to identify and recommend possible retasking of assets against higher priority targets; determines which available ISR asset is best suited to address potential TST.

(3) Maintains liaison with JTF/JAOC/JIC CM(s) for rapid retasking requests of ISR assets not under direct control.

(4) Informs JTF/JAOC/JIC CM(s) if TST collection request will affect current collection plans or require the diversion of assets.

(5) Informs TST Team Chief and ISR Chief of higher headquarters decisions affecting TST-related rapid collection requests (e.g., if JTF CM directs that selected asset cannot be redirected because of higher priority collection scheduled for mission).

(6) For assets under direct control, provides rapid tasking requests to appropriate platform LNO if that asset can prosecute target without affecting current collection plan.

(7) Coordinates with platform LNO to address airspace issues resulting from TST collection requests.

(8) Provides ISR Chief and/or TST Team Chief with timeline of imagery collection time over target for TST nominations.

(9) Informs external exploitation nodes of approved TST collection tasking to ensure that node correctly processes, exploits, and disseminates information.

t. **SIGINT Analyst (Remote Location)**. Specialty: Cryptologic Technician (Technical) (E-6) with current tactical background.

(1) Utilizes SIGINT data (raw data and finished products) to provide recommendations to ISR Chief concerning focusing SIGINT tracks on time-sensitive targeting efforts.

(2) Provides support to CM, TST Team Chief, and ISR Chief for nomination and prosecution of TST.

(3) Supports ISR Chief, sensor analysts, and LNOs of ISR platforms to rapidly cross-cue based on high-quality SIGINT data.

(4) Provides support to TST Team for correlation and fusion of SIGINT information.

(5) Aids TST Team with inputs to TST COP on GCCS-M/TBMCS and Collaboration White Board.

u. **Battlefield Coordination Detachment (BCD) LNO (Remote Location)**. Specialty: Field Grade Army Officer.

(1) Establishes communications with respective ARFOR/ JFLCC points of contact.

(2) Coordinates all aspects of TST Team operations with BCD, and specifically coordinates ISR and Strike Operations against TSTs.

(3) Provides ARFOR/JFLCC situation updates to plans, operations, and airlift sections every 6 hours or as significant changes occur.

(4) Provides status of air support in support of ARFOR/JFLCC Operations.

(5) Coordinates with BCD operations section on all aspects of TST strikes beyond FSCL.

(6) Keeps BCD Plans Sections apprised of all aspects of TST strikes beyond FSCL.

(7) Assists Plans Division in validating/clarifying ARFOR/JFLCC-preplanned and ad hoc time-sensitive targeting requirements.

(8) Assists BCD Operations and Fusion Sections in validation of TSTs and management of strike assets diverted to or retargeted against a TST.

(9) Provides plans and operations sections with ISR systems status and locations.

(10) Informs operations officer on confirmation of TST execution.

(11) The BCD's Intel/Fusion Section provides the TST Team with TST-related information via the current ARFOR/JFLCC Intelligence Summary/Daily Intelligence Summary.

(12) Is prepared to validate/clarify ARFOR/JFLCC intelligence reports.

v. **Marine Corps LNO** (Position 18). Specialty: Field Grade Marine Officer.

(1) Maintains coordination with respective TST MARFOR/JFLCC points of contact.

(2) Coordinates with ACE all aspects of TST Team's operations that affect MARFOR time-sensitive targeting operations, and specifically coordinates ISR and Strike Operations against TSTs.

(3) Provides MARFOR/JFLCC TST situation updates to ACE Watch, Current Operations, and, specifically, Deep Battle Cell every 6 hours or as significant changes occur.

(4) Provides status of air support in support of MARFOR/JFLCC Operations.

(5) Coordinates with Deep Battle Cell on all aspects of TST strikes beyond Battlefield Coordination Line and FSCL.

(6) Keeps ACE Operations Sections apprised of all aspects of TST strikes beyond FSCL.

(7) Assists Future and Current Operations Sections in validating and clarifying MARFOR/JFLCC replanned and ad hoc TST requirements.

(8) Assists ACE Watch and Current Operations in validation of TSTs and management of strike assets diverted to or and retargeted against a TST.

(9) Ensures that intelligence flow between JIC Forward and TACC is occurring, including status and locations of Joint and operational area ISR systems.

(10) Informs ACE Senior Watch Officer (SWO) on confirmation of TST execution.

(11) Ensures that data flow is occurring between JAOC TST Team and ACE Intelligence Watch Cell on current TST-related intelligence and cryptologic information.

3. TST Cell Process Scenario.

a. Daily Battle Rhythm. Since the TST Team operates inside the daily cycle of the current operations, the schedules of the larger JAOC, as well as the Current/Combat Operations Division, affect it. Illustrating the key meetings and events that occur during daily operations, Figure A-5 shows how the events of the TST Team weave into the operational tempo or battle rhythm of the overall organization.

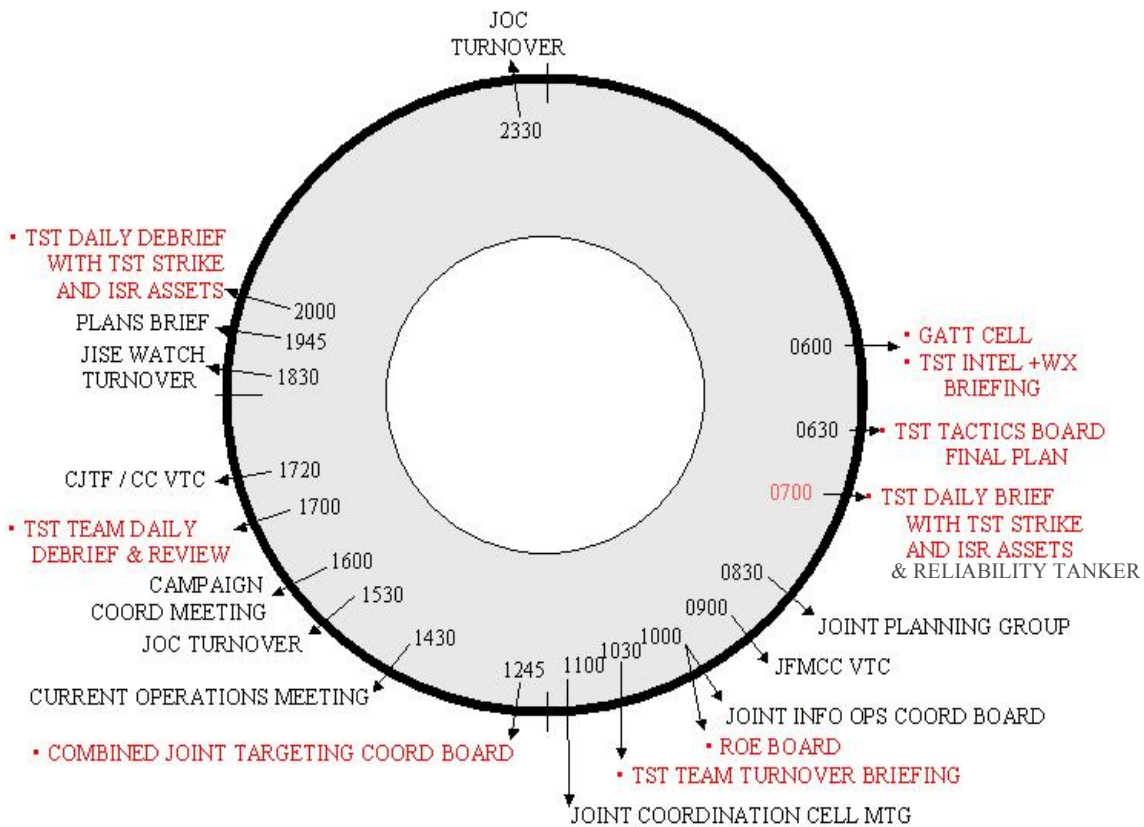


Figure A-5. Notional TST Team Battle Rhythm

b. Daily TST Briefing.

(1) The TST Team Chief will be responsible to the current operations officer/strike warfare officer/strike commander/JFACC for the execution of the TST mission defined in the ATO. This mission requires the TST Team Chief to coordinate with other mission elements on at least a daily basis, if not more frequently. Emphasis will be placed on coordination and collaboration of all elements of the JTF C2ISR aircraft for their time on station, call signs, communications, weapons loads, assigned operating area, etc., and utilizing collaboration applications. The TST Team Chief will coordinate with all the mission commanders of the various JTF-wide elements of the time-sensitive targeting infrastructure via a daily briefing. SPINS will require that all mission commanders attend the daily briefing. The following areas will be briefed:

- (a) TST Tasking and JTF Guidance.
- (b) JFACC Daily TST Guidance and Intentions.
- (c) TST Decision Authority.
- (d) TST Priority Update and TST ROE.
- (e) Time-sensitive targeting C2ISR Assets Involved/Call signs/Composition/Go-No Go Criteria.

(f) TST Card of the Day, Communications, Reference Points, Launch, Tanking, Recovery.

(g) Time-sensitive targeting ISR Tasking and Coverage of IPB-Developed NAIs.

(h) Time-sensitive targeting ISR and Strike SPINS (cross-cue etc.).

4. TST Team Process and Procedures

The time-sensitive targeting process follows the procedures outlined in Chapters I and IV. This discussion includes only amplifying information for the JFACC.

a. Find and Fix Phases

(1) Upon detection of a potential TST (emerging target) within the JTF AOR, the TST Team ISR Chief, supported by TST Team intelligence analysts, evaluates the data; determines whether the target qualifies as a TST candidate per the JIPTL and component commanders' TST guidance; and, if it does, assigns a TST designation and priority. The Situational Awareness and Assessment and TST COP Analyst then enters it into the JTF COP within the GCCS-M along with a TST designation and TST track number. The ISR Chief indicates which target requires additional tracking to the TST Team CM, who will then pair this TST with the best available ISR platform. The TST Team CM assigns a collection priority to the TST collection request and, in the case of a Component Commander-controlled ISR asset, tasks the appropriate LNO to pass this request to the platform sensor operator and inform the appropriate exploitation agency to handle the information accordingly.

(2) Alerted by cueing and emerging target detection, TST Team strike LNOs confirm the status of various strike assets and review the information that has gone into the mission planning. TST targeteer(s) access applicable targeting information and intelligence, and the TST Team Chief assesses the relative mission priority while specific TSTs are being exploited and identified.

b. Target Phase

(1) TST Team targeteers will be knowledgeable of the enemy's equipment, capabilities, operations and vulnerabilities, and possess an in-depth understanding of multiple Joint weapons' effects, to include non-lethal weapons effects and targeting accuracy requirements.

(2) TST Team targeteers will provide a description of the TST aim point(s) and weapon collateral damage effects in enough detail and accuracy to meet weapon guidance parameters, and make recommendations to the TST Team Chief.

(3) CVW Strike LNOs will have assessed the best weapons to employ against anticipated TSTs and will have had the TST dedicated assets so configured.

c. Engage Phase

(1) Some platforms may only require NRT sensor data to complete the mission; others may need more specific details (like target location, enemy threat, weather, direction or method of attack, supporting operations, location of friendly forces, control measures, specific aim points or updated coordinates).

(2) Adapt standard procedures using the TST planning card (see example in Appendix C, Figures C-1 and C-2) to task aircraft for time-sensitive targeting until some type of direct link is installed.

(3) The information provided in the tasking should also include any special coordination instructions, ROEs, weather, or anything else pertinent to completing the mission.

USMC AS JFACC

1. Overview

When the Marine Corps fulfills the function as the JFACC, the ACE would fulfill time-sensitive targeting functionality in the TACC.

2. Organization

a. The TACC is the Marine Air Command and Control System agency that exercises command (Figure A-6). The TACC integrates the six functions of Marine Corps aviation with the MAGTF command element through linkage with the MAGTF combat operations center (MAGTF COC) and the FFCC. The TACC provides functional interface for employment of MAGTF aviation in joint and multinational operations.

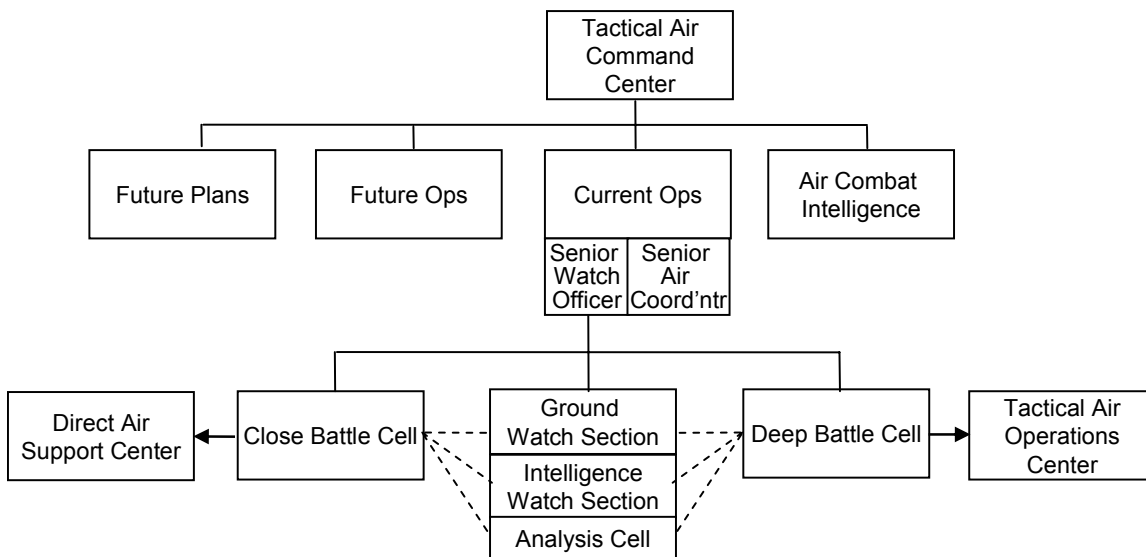


Figure A-6. USMC TACC C2

b. Current operations controls aviation delivered fires short and long of the FSCL. The SWO is familiar with all aspects of air operations, including force beddown, sortie availability, airspace control measures, communications, ROE, aircraft capabilities and limitations, and munitions capabilities. The senior air coordinator will assist the SWO as required.

(1) The Deep Battle Cell is responsible to the SWO for the management of all aviation assets assigned to, or available to, the ACE, which are used in the prosecution of the MEF deep battle.

(2) The close battle cell is responsible to the SWO for the management of all aviation assets assigned to or available to the ACE, which the ACE uses in the prosecution of the MEF close or rear battle.

(3) The analysis cell is responsible for monitoring and assessing the effectiveness of all aviation functions in support of the total MAGTF battle (rear, close, and deep).

(4) The ground watch section is responsible for providing updated friendly ground situation information.

(5) The intelligence watch section is responsible for receiving, processing, and disseminating current intelligence on the enemy situation to current operations.

3. Procedures.

a. Once a TST is identified and assigned to the MAW from the FFCC, the SWO will identify its current location and assign the mission to the Deep Battle Cell or Close Battle Cell. The Deep Battle Cell or Close Battle Cell coordinates with the Intelligence Watch and the Ground Watch Officer for the latest target information, enemy situation, and friendly situation and assign a specific platform to prosecute the target.

b. Once aircraft are assigned, the Deep Battle Cell or Close Battle Cell coordinates with the Tactical Air Operations Center (for targets long of the Battlefield Coordination Line) or the Direct Air Support Center (for targets short of the Battlefield Coordination Line) to control the engagement. Once the engagement is complete, the assessment cell acquires and maintains information on the status of the mission and recommends any further action back to the SWO.

US ARMY AS JFLCC

1. Overview

When the Army performs as the JFLCC, it can use two options for prosecuting TSTs:

a. **Centralized at the JFLCC Level.** The DOCC/FSE processes all emerging targets consistent with the JFLCC intent and guidance. The DOCC/FSE processes TSTs found and fixed by ISR platforms, then briefs the designated individuals (e.g. JFLCC, Chief of Staff, G3 or fire support coordinator) for approval. TST execution authority can be delegated to the DOCC Chief by the JFC or component commander. Upon approval, fire orders are transmitted to the units identified in the attack guidance matrix.

b. **Decentralized to Subordinate Unit.** Time-sensitive targeting operations decentralized to this level place all time-sensitive targeting responsibilities on the sensor or activity providing the targeting information. Typically, time-sensitive targeting at this level would be further limited to combat operations within a specific FSCM (Free Fire Area, Restricted Fire Area) or Engagement Area where the JFLCC has approved immediate attack consistent with his guidance, the ROE, and the attack guidance matrix. This is the most permissive time-sensitive targeting environment as it allows the shooter to engage the enemy forces quickly upon detection and identification.

2. DOCC Organization for Time-Sensitive Targeting

a. **Deep Operations Coordination Cell.** The DOCC, when established, provides the commander, at the Army, corps, and division levels, with a cell dedicated to shaping the battlefield. The DOCC performs the functions of planning, coordinating, synchronizing, and executing deep operations. The DOCC includes the FSE, which monitors the targeting execution in the main command post's current operations section and the time-sensitive targeting effort. The DOCC, with the assistance of the component staff (SOCCE if SOF forces are used) and liaison elements—

- (1) Integrates lethal and nonlethal operation fires with the scheme of maneuver.
- (2) Plans targeting objectives and priorities.
- (3) Integrates target lists and fire support coordinating measures.
- (4) Coordinates special targets.
- (5) Tracks target execution by other components and subordinate echelons.
- (6) Synchronizes Corps, echelon above Corps, and joint deep operations.
- (7) Coordinates and synchronizes employment of joint EW assets.
- (8) Monitors execution of the deep battle, ATO, land force participation in J-SEAD operations, special operations missions, and unique targets of special interest to the commander.

b. **DOCC Chief.** Specialty: As designated by the Commander, typically either the chief of staff or a field artillery Colonel. Oversees and directs all functions of the DOCC including TST prosecution.

c. **Target Intelligence Officer.** Specialty: Military Intelligence field grade officer. Manages and directs all ISR functions in support of TST prosecution for the DOCC.

d. **Deputy Fire Support Coordinator.** Specialty: Field Artillery field grade officer.

(1) Provides the day-to-day supervision of the operations of the corps fire support cell and the FSEs (TAC, main, and rear) and ensures they are fully integrated into corps staff operations.

(2) Directs the prosecution of TSTs from the DOCC FSE located in the main command post.

e. DOCC Liaisons.

(1) Ground Liaison Officer. Specialty: Ground Combat field grade officer. Ground liaison officers, located at echelon above Corps air wing operations center, can receive and report operational and intelligence data on TSTs.

(2) Air Defense Liaison. Specialty: Air Defense Officer. Protects the force and takes active measures to prevent fratricide of aircraft prosecuting TSTs in ARFOR battlespace.

(3) Airspace Management Liaison. Specialty: Airspace Management Officer. Handles real time Army airspace management issues that may arise during execution of air operations and coordinates deconfliction of airspace for TST prosecution.

3. Battlefield Coordination Detachment

The BCD is the primary ARFOR liaison to the JFACC and is collocated with the JFACC senior air operations control agency (normally the JAOC). It is responsible to the Army component commander and coordinates with, and receives, objectives, guidance, and priorities from the ARFOR G3 that must be sufficiently clear to permit the BCD to adjudicate ARFOR needs for air support. The BCD is the liaison element for all time-sensitive targeting activities and coordinates with the DOCC and JFACC for performing time-sensitive targeting.

USMC AS JFLCC

1. Force Fires Coordination Center

When the Marine Corps fulfills the function as the JFLCC, the FFCC in the MAGTF COC would be responsible for the prosecution of TSTs.

a. Organization. Within the MAGTF, the FFCC located in the MAGTF COC is responsible for prosecuting TSTs. In the deliberate process, the future fires section, with support from the target intelligence section and the CM, plans the engagement of TSTs (Figure A-7). In the immediate process, the current fires section, with support from the reactive targeting section and the CM, coordinates and directs the engagement of TSTs. Engagement and assessment of the TST would be conducted by the GCE or ACE. The Fires Liaison Section provides liaison officers to the JFC and various components. They represent the MAGTF Commander on all aspects of fires, to include TSTs if necessary.

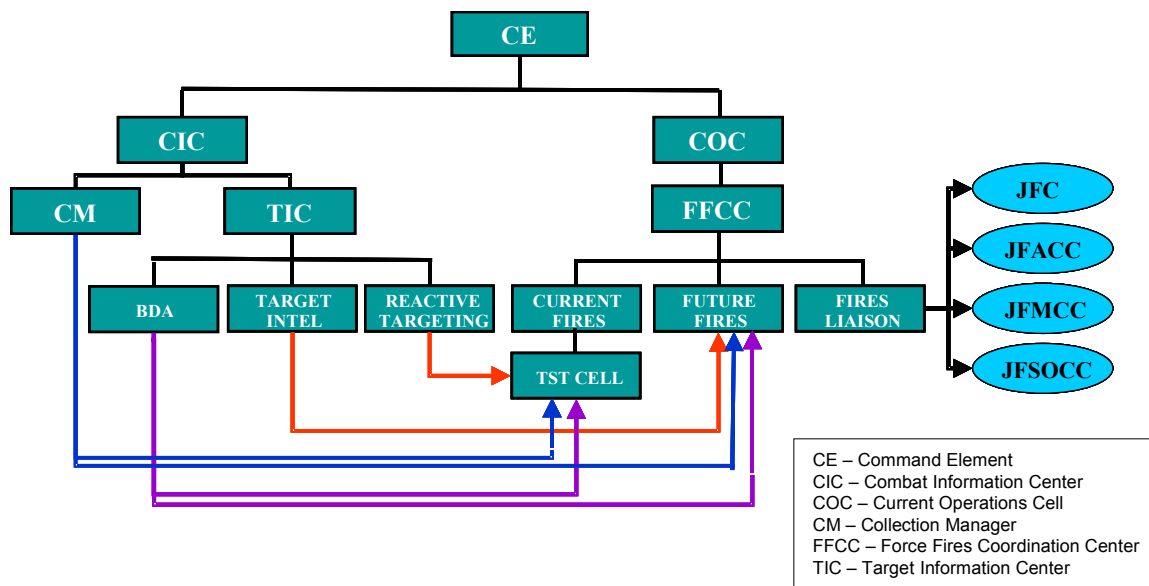


Figure A-7. MAGTF COC C2 Diagram

b. Procedures. Once a TST is found, the reactive targeting section, the CM and the current fires section coordinate to perform the fix, track, and target functions. When the decision to engage is received, the target is passed to the appropriate element for engagement, either the ACE, the GCE, or both. The element that engages the TST will provide assessment back to the Current Fires Section to determine whether the desired effects were achieved. The Current Fires Sections is the interface among components and the JFC using the TST collaborative tools.

USN AS JFMCC

1. USN TST Team Composition

a. Duty positions and functions that play a major role in prosecuting TSTs are listed below. Although nearly all members would be dual hatted to fill other positions in a MOC, these duty positions are identified as the focal points for each function supporting the TST Team.

b. Key CONOPS Intelligence and Cryptologic Point. In the descriptions of the MOC TST Team compositions that follow, there is limited discussion of the supporting intelligence and cryptologic positions in the joint intelligence support element. Support from these assets is critical to the successful execution of time-sensitive targeting mission.

c. The JFMCC's TST watch captain may call JFMCC'S TST Cell TST team members into a huddle physically or virtually as required. Some positions may be temporarily located in the joint intelligence support element while others will remain in collateral spaces and interface frequently with personnel located in these SCIFs. The position numbers are keyed to the illustration provided in Figure A-8.

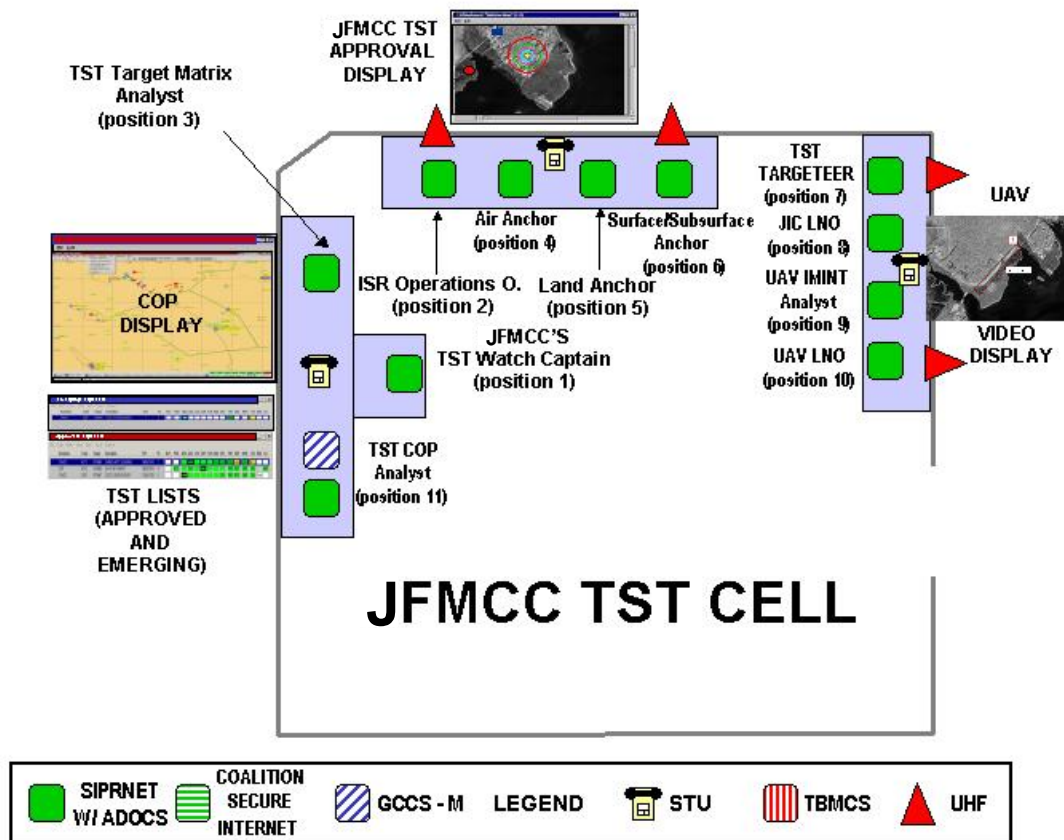


Figure A-8. Notional TST Cell Positions and Nomenclature within a MOC

(1) **TST Watch Captain** (position 1). Specialty: Aviator (O-5) with operational strike/targeting experience and/or field grade officer with extensive operational strike experience and/or command and control expertise.

(a) Responsible to the JFMCC and Deputy Joint Force Maritime Component Commander (DJFMCC)/Deputy Chief of Staff for Operations for the execution of the time-sensitive targeting mission within the JFMCC designated area of responsibility.

(b) Can retain or delegate strike authorization authority against TSTs as authorized by the JFMCC/DJFMCC.

(c) Directs the JFMCC's TST Cell operations, to include target nomination, validation, approval, pairing, coordination, and execution.

(d) Authorize, through ISR Operations Officer, redirection, and reallocation of JFMCC ISR assets to include all aspects of the JFMCC TST Cell's ISR operations to include approval, pairing, coordination, and execution.

(e) Briefs JFMCC/DJFMCC as required on time-sensitive targeting operations.

(f) Coordinates with the time-sensitive targeting mission elements at least daily.

(g) Coordinates with all the component mission commanders on time-sensitive targeting operations issues via a daily virtual coordination meeting.

(h) Assists JFC TST Team Chief, as requested, in briefing of JFC/DJFC. Coordinates with JFC time-sensitive targeting elements on at least a daily basis, if not more frequently.

(2)ISR Operations Officer (position 2). Specialty: Intelligence LCDR (0-4) with recent and extensive C4ISR operational intelligence background

(a) Focuses ISR analytical, targeting, and collection efforts to support JFC and JFMCC TST guidance.

(b) Determines which available ISR asset is best suited to address an emerging or “pop-up” potential TST.

(c) Coordinates with other JFMCC TST Cell personnel to ensure access to all-source intelligence on emerging TSTs.

(d) Accesses available IMINT, SIGINT, MASINT, and other ISR raw data to determine potential “confidence level” in TST identification.

(e) Determines if target qualifies as a TST candidate per the JIPTL/JFMCC TST Hot List in daily intentions and guidance as well as component commanders’ TST guidance.

(f) Plans, coordinates, and ultimately directs movement of JFMCC ISR assets and other assets under JFMCC tactical control onto emerging TST collection requests that requires the asset to be diverted from original tasking.

(g) Provides brief to the TST Watch Captain and others (as required) for ISR coverage of emerging or “pop-up” TSTs, covers location, TST specifics, ISR assets available and impact to collection plan if ISR asset(s) is tasked against emerging TST.

(h) Coordinates with the primary warfare commanders (if ISR asset is TACON to them), appropriate platform LNO, UAV Operations and airborne ISR mission commanders to optimize sensor collection and reposition to provide best support for TST prosecution.

(i) Coordinates with JFC and Component Commanders’ ISR Operations Officers for rapid retasking requests of ISR assets not under direct control. Adjusts JFMCC’S TST Cell collection management plan to support JFMCC time-sensitive targeting objectives.

(3)TST Target Matrix Analyst (position 3). Specialty: Senior (E-7) Intelligence Specialist or Cryptologic Technician.

(a) Manages the JFMCC inputs to the TST decision matrixes.

(b) Responsible for data continuity between TST data in the COP and the TST decision matrixes.

(c) Provides JFMCC’S TST Cell warning if either incorrect or incomplete data is found in the COP or TST matrixes (coordinates with supporting intelligence personnel).

(d) Ensures continuity of TST decision matrixes updated on the appropriate displays in JFMCC TST Cell, “knowledge walls,” TST web site(s) and collaborative tools.

(e) Ensures continuity, wherever possible, between sensitive compartmented information and GENSER TST decision matrixes, “knowledge walls,” TST web site(s) and collaborative tool.

(4)**Air Anchor** (position 4). Specialty: CVW experience, senior strike aircrew (O-4/O-5).

(a) Facilitates planning of time-sensitive targeting strike assets.

(b) Coordinates with CVW Strike Operations and Joint ISR Officer.

(c) Coordinates with USAF strike LNO and joint /coalition strike officers (if embarked).

(d) Coordinates with Land and Surface/Submarine Anchors.

(e) Coordinates time-sensitive targeting sensor-to-shooter operations.

(5)**Land Anchor** (position 5). Specialty: Ground combat experience, senior field grade officer (O-4/5). Facilitates planning of ground (e.g. Marine, Army) strike assets. Coordinates with Air and Surface/Submarine Anchors. Coordinates ground time-sensitive targeting sensor-to-shooter operations.

(6)**Surface/Subsurface Anchor** (position 6). Specialty: Senior (O-4/5) tactical strike weapons experience, senior tactically qualified officer. Facilitates planning of afloat surface and submarine strike assets. Coordinates with Air and Land Anchors. Coordinates surface/submarine TST sensor-to-shooter operations.

(7)**Targeteer** (position 7). Specialty: Intelligence Officer (O-3/4) with extensive targeteering and weaponeering experience, preferably against TSTs.

(a) Coordinates all JFMCC targeting efforts.

(b) Conducts/contributes to JTF deliberate targeting.

(c) Directs operations of the JFMCC TST Cell that includes target nomination, approval, pairing, coordination, and prosecution. Nominations for strikes within the current ATO cycle must consider weather, enemy defenses, ordnance, and probable delivery tactics.

(d) Acts as JFMCC’s representative to daily GATT and strategy meetings. Coordinates all JFMCC targeting efforts. Conducts and contributes to JTF deliberate targeting.

(e) Manages all TST-related mensurations to ensure optimization of assets.

(8) JIC LNO and Predictive Battlespace Awareness Analyst (position 8). Specialty: Intelligence Officer (O-4/O-5) /warrant officer (CWO-3/4) or Cryptologist (O-4/O-5) all with expertise on time-sensitive targeting capabilities and tactics.

(a) Responsible for integration of all-source intelligence into JFMCC'S TST Cell, focusing on TST portions of COP.

(b) Fuses all-source intelligence data in support of time-sensitive targeting operations.

(c) Coordinates TST Cell's intelligence training on TST positive identification, TST positive identification guides, etc.

(d) Coordinates TST Cell's predictive battlespace situational awareness.

(e) Coordinates on IMINT precision geolocation points, collateral damage estimates, no-strike deconfliction, and weaponering solutions.

(f) Provides recommendations to ISR Operations Officer on TST collection opportunities and priorities.

(g) Reviews raw and finished TST data and provides TST predictive analysis to TST Cell.

(h) Provides predictive battlespace analysis to TST Watch Captain and TST Cell (especially to ISR operations officer) in support of current and future ISR operations.

(i) Provides support to the TST Cell for visualization of TST event-related activity to include predicted enemy courses of action for TST support.

(9) UAV IMINT Analyst (position 9). Specialty: Intelligence Specialist Imagery Analyst (IS E-5/6).

(a) Monitors video and imagery to provide target detection and correlation information and target nomination.

(b) Coordinates with the UAV Site/Distributed Common Ground Station Site/ISR-M/Airborne Operator to optimize sensor collection and adjust collection profiles to obtain best quality image for TST as directed by the ISR Operations Officer.

(c) Coordinates with mensuration manager and TST mensuration analyst(s) to generate precise location data on TSTs from video and imagery products.

(d) Coordinates and captures still imagery products from the streaming video for TST.

(e) Disseminates selected imagery products to Mensuration Manager /TST Mensuration Analyst(s) for precision analysis and populates imagery collaborative tools as directed.

(10) UAV LNO (Position 10). Specialty: Experience as UAV Sensor Operator (civilian or E-7).

(a) Monitors UAV video to provide target detection and correlation information.

(b) Coordinates with UAV site to optimize sensor collection and reposition allocated UAV collection profiles to obtain best quality images.

(c) Coordinates with IMINT Analyst to generate precise coordinates on TSTs from UAV product.

(d) Coordinates and captures still-frame imagery products from streaming UAV video for time-sensitive targeting.

(e) Maintains direct access to UAV sensor operators in GCS to facilitate rapid reconnaissance requests and retaskings.

(f) Disseminates selected UAV imagery products to imagery server.

(11) **TST Common Operational Picture Analyst** (position 11). Specialty: Cryptologist or Intelligence Officer (O-3).

(a) Maintains situational awareness on GCCS-M and ADOCS concerning the TST mission.

(b) Displays and maintains NRT dispositions of current time-sensitive targeting picture.

(c) Maintains an accurate, fused, and rapidly updated track on TSTs.

(d) Manages JFMCC's TST track maintenance, correlates multiple sensor data, and updates GCCS/ADOCS.

(e) Provides JFMCC's TST Cell personnel with overall air and TST ground picture.

(f) Develops and maintains time-sensitive targeting displays, databases, and logs.

(g) Advises of significant changes to include TST incidents, engagements, movements, changes to TST picture (e.g., changes in enemy radar parameters or operating characteristics) and trends, or changes in enemy order of battle and tactics.

(h) Coordinates with intelligence, EW, and cryptologic personnel to ensure quality control of TST information.

(i) Performs duties of Operations-Intelligence Officer when required.

JFSOCC TST PROCEDURES

1. Overview

JFSOCC must establish procedures to nominate and deconflict TSTs throughout the JOA. This section provides examples of JFSOCC procedures. These procedures must be altered to conform to the JFC guidance and mission; then published in an order that is updated throughout the contingency.

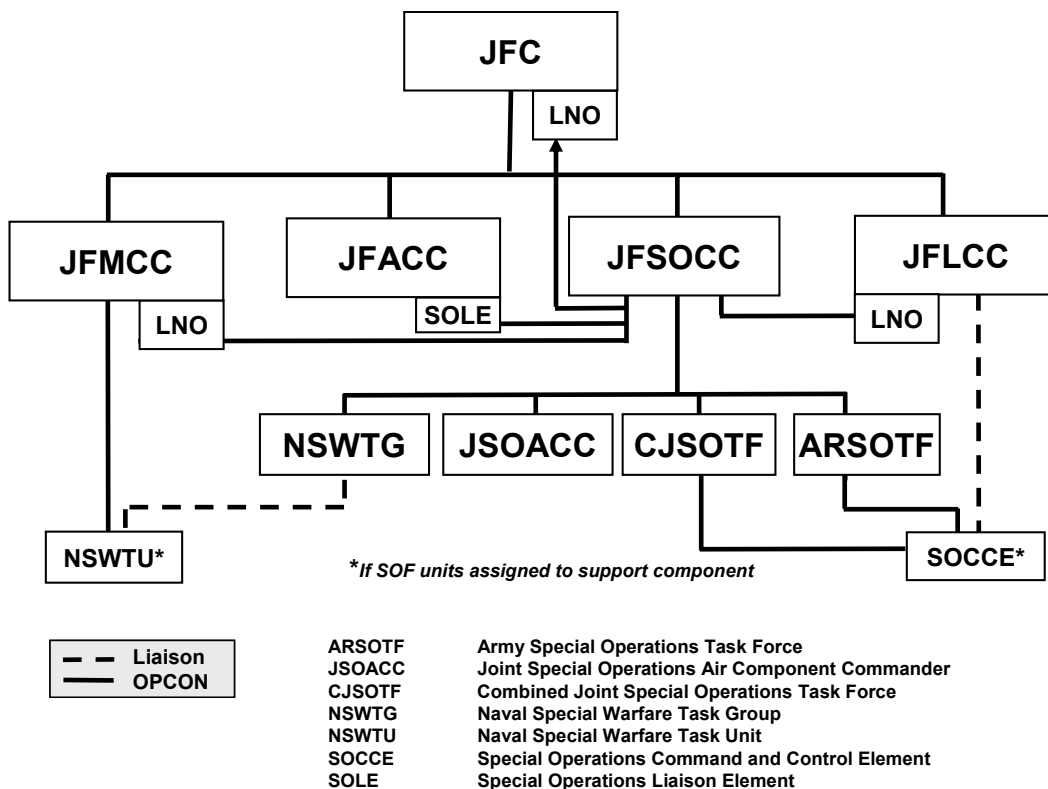


Figure A-9. JFSOCC C2 and Liaison

2. Notional JFSOCC C2 Structure

a. There are two ways the JFSOCC will conduct time-sensitive targeting operations. Either JFSOCC will nominate a TST within its operating area or another force will nominate a TST for surveillance or potential strike by SOF. In either case, the JFSOCC JFE will have to deconflict with all JFSOCC forces and determine if any JFSOCC forces are capable of prosecuting the TST to achieve the desired effect.

b. Prior to the conflict, JFSOCC must determine how JFSOCC forces at the tactical level will communicate identified TSTs to the JFSOCC. The most rapid method with the least number of handoffs is the most desirable. The most direct way is to have a separate SATCOM net dedicated to SOF TSTs. The JFSOCC Current Operations JFE will monitor the SOF TST SATCOM net to have instant, direct access. The subordinate JFSOCC headquarters (JSOTF, ARSOTF, NSWTG, JSOACC, etc.) should also have access to this net to be able to monitor the communication and allow simultaneous situational awareness for all JFSOCC sub-components (Figure A-10). The JFSOCC JFE will then conduct two parallel tasks—deconfliction and a feasibility assessment.

JFSOCC TST Execution Flow

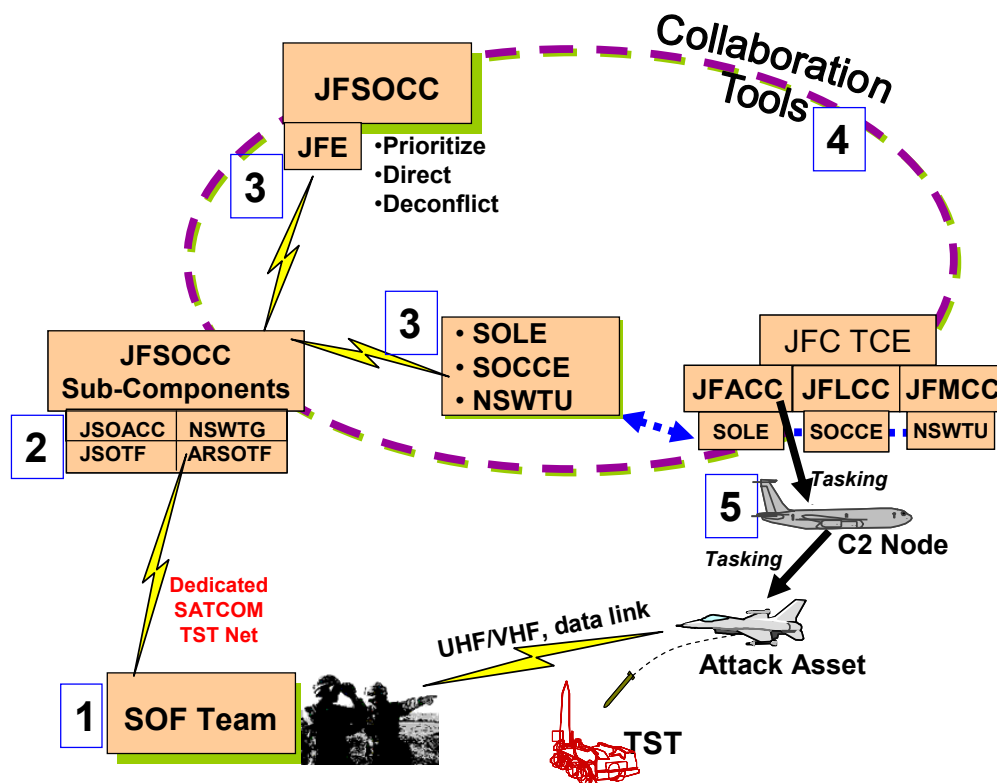


Figure A-10. Example JFSOCC Time-Sensitive Targeting C2 and Execution Flow Diagram

c. To deconflict, the JFSOCC JFE will check the COP for other JFSOCC forces (since not all deployed JFSOCC forces are aware of all other JFSOCC forces on the battlefield). As a redundant task (because this is so critical), the JFE will task the ground and/or air operations officers to contact the JFSOCC component headquarters to check their forces' locations. Since the JFSOCC components should have heard the TST notification on the SATCOM net, they should have already started this process, thereby accelerating prosecution of the TST. The criteria to determine if a JFSOCC team is too close to the TST to allow the strike is based on many factors—type of TST, estimation of the weapon and/or system which may be used for the TST (size of ordnance required), mobility of the team, etc. At a minimum, some JFSOCC have used 525 meters—the largest Danger Close distance for ground-burst weapons listed in the ALSA publication *J-Fire*.

d. If there are no JFSOCC forces in conflict with engaging the TST, then the JFSOCC will relay this to the JFC and other components via the collaborative network (JTSTM, IWS, etc.). If there are JFSOCC forces that may potentially conflict with prosecution of the TST, the JFSOCC must relay this information to the JFC and other components. The JFSOCC must determine if the team can move (or if the TST will move to be clear of the team) and report this to the JFC and other components.

e. The JFSOCC will simultaneously be evaluating its ability to prosecute the TST. Special operations forces have certain assets that may be capable of immediate prosecution such as AC-130s or MH-60 DAPS (attack-capable helicopters). The JFSOCC may also choose to use previously allocated JFACC assets to engage the TST. However, some TSTs may have a window of vulnerability sometime in the future or be of a nature that a kinetic engagement is not desirable (such as capturing a leadership target for interrogation). In these cases, the JFSOCC will conduct a collaborative feasibility assessment (via the JFSOCC JOC Future Operations section) with the JFSOCC components and report the results of this to the JFC and other components.

f. If the JFC (or delegated agency) chooses to engage a JFSOCC-nominated TST, then the JFSOCC JFE must coordinate the link-up of the engaging forces with the nominating deployed team, through the subordinate HQ (normally a JSOTF JFE). The JFSOCC JFE then monitors target prosecution and receives the combat assessment from the deployed team and/or allocated JFACC asset. These results are reported to the JFC and other components (Figure A-11).

Note: If a TST was prosecuted by JFSOCC assets (or JFSOCC-allocated JFACC assets) without the need for external coordination, then the JFE may report to the JFC and other components after completion of the TST engagement.

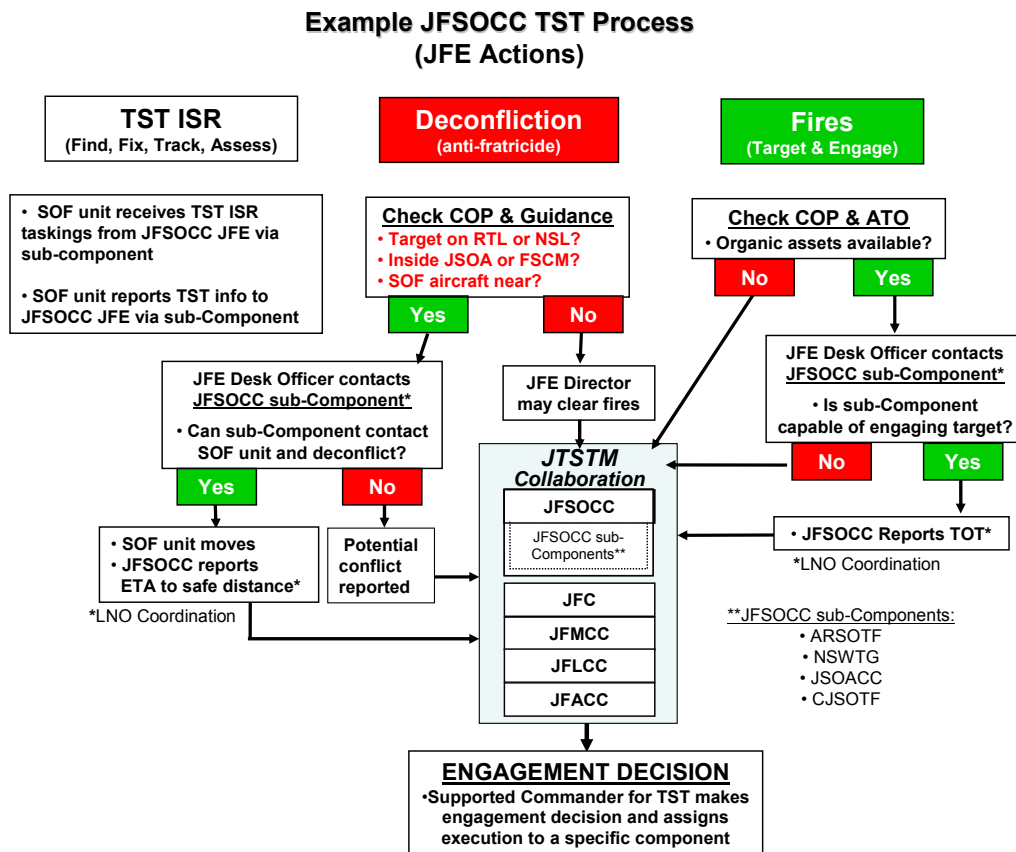


Figure A-11. Notional JFSOCC TST Battledrill

g. JFSOCC JFEs and intelligence sections do not ordinarily have a dedicated collateral damage section. Since most JFSOCC-nominated TSTs will come from JFSOCC teams with visual contact of the TST and either be prosecuted as close air support or as direct action assault, no headquarters collateral damage estimate will be required. The tactical forces will conduct the CDE as an implied task during their TST prosecution. If a JFSOCC-nominated TST requires a headquarters-generated CDE, the JFSOCC may require assistance from the supporting command to comply with the CDE requirement prior to engagement.

h. In some cases, JFSOCC forces may operate in other components' operating areas as a supporting element. The JFSOCC may choose to deploy a Special Operations Command and Control Element (SOCCE) to the supported command, particularly the JFLCC, or its major subordinate commands. The SOLE is always deployed to the JAOC in support of the JFACC. It is usually then more responsive to have TSTs nominated by SOF teams in support of that component to be processed through the SOCCE or SOLE embedded within that supported command and following the supported command's time-sensitive targeting procedures. This procedure prevents JFSOCC operations inconsistent with the supported commander's intent and ensures maximum situational awareness and responsiveness for the supported command. In this case, the JFSOCC may not be aware of the operation until it is completed and the supported command provides information on the time-sensitive targeting operation via the collaborative time-sensitive targeting management tool.

Appendix B

MULTINATIONAL TIME-SENSITIVE TARGETING CONSIDERATIONS

1. Introduction

a. When conducting time-sensitive targeting operations within a multinational context, there are a number of issues that must be addressed. The aim of this appendix is to highlight multinational issues in time-sensitive targeting operations and provide generic guidance for commanders and their staffs to assist them in anticipating and overcoming multinational-specific problems and difficulties. This should result in synergistic working methods and make best use of multinational capabilities.

2. Command and Control

a. Multinational partners may stand up a National Contingent Headquarters that is responsible to their national command authorities, but does not work for the coalition headquarters. This headquarters is separate from the national contingent headquarters that is responsible to the coalition commander. These personnel may be dual-hatted to either the coalition headquarters or national contingent headquarters. The purpose of the national headquarters will be to liaise with their national command authorities when necessary to obtain target approval for time-sensitive targeting issues. These multinational HQs will ideally be collocated with the coalition HQs.

b. There are three ways in which coalition personnel may be expected to operate as part of the time-sensitive targeting process:

(1) Member of an integrated headquarters: A headquarters in which the staff is integrated from the various troop-contributing nations of the coalition. Personnel who are full-time members of a permanent multinational staff will have access to time-sensitive targeting management tools and systems and will operate seamlessly alongside their headquarters counterparts. Personnel who are augmentations to the staff will normally have access to the time-sensitive targeting tools and systems, but must be educated in their use.

(2) Liaison personnel: Personnel who are responsible for coordinating time-sensitive targeting issues with their nations.

(3) Member of a national headquarters: A headquarters that is responsible for liaising between their national command authority and the coalition headquarters on time-sensitive targeting issues.

c. If multinational personnel are integrated within a TST Cell, they will be expected to act in the same roles as lead nation personnel in the same posts. As far as the TST Cell is concerned, multinational personnel can also offer advice and expertise, including any multinational-specific guidance, in the same way, as any other capability would be represented. The multinational element commanders at the component HQs represent national interests in this model, but there may be dual-hat responsibilities in circumstances where the multinational commanders have deputizing roles for their US counterparts.

d. Information or guidance available from embedded personnel guidance may be necessary from the relevant element HQ. In the event that the matter cannot be settled at the component level, the multinational element commander will refer to the coalition National Contingent Headquarters and ultimately the coalition NCC. Further referral to the National HQ (i.e. based in the National capital) may be required, but this will be dealt with outside the operational area command chain.

e. It may not be necessary to have multinational representation in coalition TST Cells from every country. This is because nations may not be represented in the component or may have restrictions placed upon them, which preclude their participation in all time-sensitive targeting activities. Therefore, multinational involvement within a TST Cell will depend on the multinational forces apportioned to the task, but may also require the positioning of LNOs to liaise on normal tasking issues within the components. The degree of involvement may also be dependent on command relationships.

3. Multinational Involvement

a. Limitations. Political and military differences are to be expected and must be accommodated whenever multinational partners come together for an operation. Further complication may arise in the use of other nation's sovereign territory or with United Nations involvement. This is akin to the process whereby OGAs are factored into military planning. The circumstances whereby such factors may hinder or affect multinational intentions should be estimated in advance and appropriate allowances made in procedures.

b. Multinational Role. It is vital that the multinational partners are given appropriate roles that they are capable of filling and the necessary support. The commanders must assess who the key decision makers are in the multinational processes and how long decisions will take when determining what part the multinational partner should play. It is important that multinational partners understand each other from the outset. The multinational partner will have conducted its own estimate of enemy COA, desired end states, and centers of gravity. It may even have decided which target sets it considers critical. Mutual understanding can be aided by early formal exchanges of planning material and objectives.

c. Augmented into integrated HQs. There are a number of roles within the TST Cell that require close involvement of multinational personnel, if multinational forces are included within the order of battle. Examples include the following:

(1) Declination of multinational force involvement - The multinational commander may veto, or decline, a particular weapon/target proposal due to national ROE differences or political guidance.

(2) Attack coordination - This links to the estimate and GATT process to identify assets allocated to time-sensitive targeting missions by senior multinational commanders.

(3) Diverting strike assets to a TST - Which assets cannot be 'pulled' for TST and what are the negotiation procedures?

(4) ISR asset tasking and product analysis - Which assets could be useful against which target sets and how are they retasked?

(5) Predictive target behavior analysis - Links may be required to OGAs and there will be ISR and collection coordination intelligence requirements management considerations.

(6) Weaponizing and WTP - In particular, which capabilities will be useful and allowed against which targets and how will they be tasked?

d. The TST Cell must have ready access to subject matter experts to develop a rapid understanding of capabilities and limitations. Consequently, a multinational coalition is best served by embedding multinational personnel within the TST Cell, where they conduct tasks in the same way as if they were US personnel. The commander must consider which positions, and with what expertise, multinational personnel can assume. Where there is no suitable post or cell function for the SME to be fully integrated, it is important for the component commander to have access to the right expertise in the form of an LNO. It will be necessary to stipulate the requirements for this liaison role in the planning for TST structures.

e. Legal and ROE differences and issues concerned with asset basing in coalition nation sovereign territory such as refueling from coalition nation tankers should be covered in operational guidance. There will almost certainly be occasions on which multinational partners will require national legal advice at certain stages of the targeting cycle to advise on matters of national interest. It should be anticipated that the more stringent national restrictions could apply when using multinational assets.

4. Component Commander's Planning

There are a number of issues that should be considered in order to assist with the successful planning of multinational operations.

a. The JFC and staff must consider the employment and capabilities of the multinational forces, and assign appropriate and feasible roles and missions. Operational effectiveness will depend on the successful communication of the JFC intent and procedures to multinational partners. It will likely be necessary to educate multinational personnel in the working practices of the TST Cell, and to provide appropriate procedures to involve them fully. Mission command, involving the delegation of attack authority to the lowest practicable level, is widely practiced by many potential multinational partners. The impact of an alternative modus operandi should be considered during planning.

b. Planning should include the requirement to provide sufficient training and information so that multinational forces can carry out assigned roles. Training for time-sensitive targeting should start during the multinational coalition buildup and will require the allocation of adequate time to train in time-sensitive targeting procedures during the precampaign period. This should include an academic planning phase, during which many of the differences and any training requirements can be assessed. Whenever possible, operational area collective training should be conducted, including training on time-sensitive targeting management applications. Ideally, national training and doctrine should allow the development of common engagement procedures and capabilities against TSTs.

c. The policy for disclosure of classified information to multinational partners should be examined as early as possible during deliberate and crisis action planning to

enable information sharing to the greatest extent possible. There may be circumstances in which national interests require some restriction on access to information (in both directions) for one or more multinational partners. Multinational LANs are likely to limit TST Cell effectiveness because information has to be 'pushed' onto the LAN and this may not be carried out either completely or in time. The implication is that a commander must consider very carefully the impact of not permitting or supporting full sharing of information or full use of the relevant targeting applications. Information exchange planning must consider multinational access to systems such as SIPRNET. The sharing of relevant information must be considered both upwards and downwards. Solutions are already available which could give multinational staff access to approved information by the use of permissions or firewalls.

5. Connectivity

a. Multinational coalition partners will have a number of different national communications information systems in addition to those in use with coalition forces. Some of the national equipment may not be compatible with, or replaceable by, coalition systems. There are times when command elements are not collocated and require additional information exchange support. For time-sensitive targeting it is necessary to consider two areas of communications information systems function:

(1) Although communication to and from collection and execution assets will usually be catered by coalition unit command elements, there may be a need for direct command of some assets (such as UAVs) to allow real time control during the Find, Fix, Track, or Assess Phases of time-sensitive targeting. If direct command is required, there must be consideration of how control is exercised over national assets. There will be an additional requirement to identify information exchange requirements, including file formats and data link protocols. To ensure communications and clarity of command intent a Special Forces coalition support team should be assigned to multinational forces to guarantee communications connectivity and to perform the time-sensitive targeting functions for the coalition force. This should allow timely and efficient handover of sensor product.

(2) The lead nation will be expected to take the lead on time-sensitive targeting architecture issues, including information access and sharing of the COP, and will be expected to provide appropriate management applications.

b. Whatever the architecture of the C4I infrastructure, there is a requirement to ensure that the process is independent of the tools or failures of those tools. Backup solutions must be made available and the use of these alternative procedures should be included in SOPs and rehearsed.

c. The key issues that must be addressed in US-led coalition time-sensitive targeting operations are:

(1) Command and Control arrangements.

(a) C2 structure and location.

(b) C2 connectivity requirements, capability, and delay.

(c) Personnel – use of deputy commanders, LNOs, integrated.

(d) Adequate command guidance.

(2) Military capability analysis – an assessment of multinational partner capabilities and shortfalls in terms of:

- (a) Time-sensitive targeting strike assets.
- (b) C4ISR assets.
- (c) Other specialist capabilities, e.g. SOF, WMD analyst.
- (d) Allied command and TST asset training requirements and opportunities.

(3) Politico-military Issues/Differences

- (a) ROE.
- (b) SJA/Legal.
- (c) OGD/A (US, United Nations, and Allied National), e.g. United Kingdom Foreign and Commonwealth Office, United Nations Office of the High Commissioner for Refugees.

(d) Host-Nation Support, Local Host-Nation Support, and sovereign territory limitations, e.g. Diego Garcia.

- (e) CD acceptability.

(4) Connectivity Issues.

(a) Information Exchange Requirements, Disclosure and level of information sharing (e.g., SIPRNET, Combined Enterprise Information Exchange System (CENTRIXS), USN Radiant Breeze shipboard intelligence system).

(b) Technology sharing – ADOCS, TBMCS, Hazard Prediction and Analysis Capability (HPAC), Nuclear, Biological, Chemical Reporting, Plotting and Modelling (NBS-RPM), etc.

Appendix C

TIME-SENSITIVE TARGETING CHECKLISTS

1. Overview

This appendix includes sample time-sensitive targeting planning and execution checklists that apply to the joint forces.

a. Mission analysis is covered in the joint targeting planning cycle and includes the steps needed to conduct a focused mission analysis of the TST types (see JP 3-60 and CJCSM 3500.05A). Known facts, assumptions, status, conditions, and tasks concerning time-sensitive targeting are reviewed during mission analysis, along with the commander's guidance and intent.

b. The planning checklists cover preconflict tasks and considerations, and are broken down into the planning elements covered in the planning section of Chapter IV: Commander's Guidance, IPB, Restrictions, ISR/Operations Assessment, Operations, C4, and Multinational.

c. The execution checklists cover daily TST Cell operations and preparations as well as the phases of the time-sensitive targeting process. An example aircrew TST planning card is included to streamline communications during aircrew time-sensitive targeting mission tasking.

2. Planning

a. Planning guidance

- (1) Review final or revised mission statement.
- (2) Review final or revised guidance and intent.
- (3) Purpose, method, and end state.

b. Develop detailed CONOPS for TST

- (1) Designation of supporting/supported commanders.
- (2) Designation of priority for ISR/fires/targeting guidance.
- (3) Designation of priority for force protection.
- (4) Revised defended asset list.
- (5) Revised tasks for components.
- (6) Size, location, and tasks for time-sensitive targeting reserve.
- (7) Re-prioritization of time-phased force and deployment data (beyond 7 days).
- (8) Revised guidance on IO, deception, OPSEC, EW, PSYOP, physical destruction.
- (9) Revised ROE.
- (10) Reference standardization guidelines.
- (11) Time-sensitive targeting C4 architecture connectivity guidance.

- (12) Desired effect on each TST.
 - (13) Acceptable risk for each type of TST.
 - (14) Approval authority delegation.
- c. Revised guidance for priority of force capabilities
- (1) Initial guidance on time-sensitive targeting operations anticipated situation and enemy course(s) of action.
 - (2) Command relationships and liaison requirements for time-sensitive targeting.
 - (3) Revised JFC mission and intent.
 - (4) Revised campaign phasing.
 - (5) Threshold requirements for levels of destruction for specific TSTs.
 - (6) Friendly forces and weapons available to conduct TST operations.
 - (7) Identify TST priorities for JFC approval.
 - (8) Special TST ROE.
 - (9) Special ROE for targets with the potential to contain WMD or a TIC/TIM.
 - (10) Revised guidance for future branch planning activity.
 - (11) Revised guidance on briefbacks and rehearsals to be conducted.
 - (12) Identify TST nomination procedures, as lists and priorities will change throughout the campaign.
 - (13) Revise operations plans and orders.
 - (a) Revised ROE.
 - (b) Revised SPINS.
- d. Commander's Guidance
- (1) Has the JFC guidance been developed in coordination with components?
 - (2) Has the JFC guidance been disseminated to every TST Cell supporting the JFC both in operational area and worldwide?
- e. Restrictions
- (1) Are LOAC, TST ROE, and PID clearly articulated and understood by each TST Cell?
 - (2) Does every TST Cell know where to look for updates to TST restrictions?
 - (3) Is JFC CDM established, disseminated, and understood by each TST Cell (TST CDM may be different from standard JFC CDM)?
 - (4) Are any NSL/RTL restrictions resolved (if applicable)?
 - (5) Are any other JFC imposed restrictions resolved (if applicable)?

f. IPB

(1) Has IPB been conducted for each TST set (i.e. SCUD IPB requirements are much different from IPB requirements for a leadership target)?

(2) Has GEOINT been included in the IPB?

(3) Have courses of action been developed to depict TST type, capabilities, and limitations accurately?

(4) Has a collection plan been developed based on the IPB conducted that capitalizes on the conclusions drawn from IPB?

(5) Have the results of the IPB been disseminated to the other components (do components know the IPB identified NAIs/TAIs)?

(6) Does every component know the IPB reference system (e.g. does every component know what NAI 3 is, and where it is located)?

(7) Are the impacts of PID/CDE/ROE requirements integrated into the IPB plan (i.e. is the school located near a specific NAI/TAI actually being used as a school)?

g. ISR/Operational Assessment. Questions to resolve during ISR planning include:

(1) Which assets or sensors are available or controlled by the JFC and which assets or sensors are available or controlled by the components?

(2) Which sensors can be rapidly retasked to provide a component with timely, targetable information, to include PID?

(a) Are sufficient assets available to support rapid cross-cueing in time-sensitive targeting execution?

(b) Have sensor hand-off procedures been established and disseminated?

(c) Which sensors can satisfy JFC TST PID requirements?

(3) What opportunity costs are acceptable? Is there clear guidance on what kind of targets can be lost or BDA delayed, from an ISR perspective, etc.?

(4) Are TST targeting priorities matched with ISR collection priorities? Where are the disconnects?

(5) What degree of intelligence loss is acceptable for the sake of retasking to support time-sensitive targeting execution?

(6) Are the essential national and operational area ISR agencies identified, and are mechanisms established with JFC to ensure their support of the time-sensitive targeting mission?

(7) Within your component TST Cell, are the operations and ISR personnel who are supporting or executing the mission in close or immediate proximity? Are they familiar with the plan?

(8) Does the CM understand the most current TST priority intelligence requirements?

(9) Are TST priority intelligence requirements adequately defined to support development of a collection plan?

(10) Which TST priority intelligence requirements have been converted into specific orders/requests? Which have not?

(11) What is the process to reconcile engaged TSTs with existing target lists/COP/databases?

h. Operations

(1) Are common maps and charts available and posted in the TST Cell displaying:

- (a) Friendly forces?
- (b) Enemy forces?
- (c) FSCMs and ACMs?
- (d) NAIs/TAIs?
- (e) CGRS?
- (f) Bullseyes?

(2) Do all TST Cells share the most current version of the COP/battlefield displays?

(3) Which strike assets have the capability to receive target updates inflight? Which can receive via data link?

i. C4

(1) Are there redundant, secure communications between all TST Cells supporting the JFC?

- (a) Secure teleconferencing.
- (b) STU-III/STE.
- (c) KY-68.
- (d) Red Phones.
- (e) SATCOM.
- (f) Collaborative Tools (chat, TST Manager).
- (g) E-mail.

(2) Are ISR voice and data networks established?

- (a) Wide and narrow band SATCOM.
- (b) Link 16.
- (c) Global Broadcast System for streaming video.
- (d) TIBS.
- (e) VPN.
- (f) Trap data dissemination system.

(3) Are C2 voice and data networks established?

- (a) UHF/VHF.

- (b) HF.
- (c) SATCOM.
- (d) Link 16 /SADL/IDM/List exceptions (i.e. aircraft and or ground surface C2 nodes that are not link 16/SADL/IDM equipped or in service).
- (e) Combat Track II.
- (f) RPTS.
- (g) Variable message format.
- (h) Have Quick.
- (i) KY-58.

(4) Wide area voice and data networks?

- (a) Distributed Common Ground Station/Deployable Ground Station.
- (b) Predator GCS.
- (c) VOIP.
- (d) DIS Voice.
- (e) TAC phones.
- (f) STU/STE.
- (g) SIPRNET.
- (h) JWICS.

(5) T-1/T-3 connectivity.

- (a) Local area voice and data networks?
- (b) VOIP.
- (c) STU/STE.
- (d) SIPRNET.

j. Multinational/Coalition

(1) Have multinational/coalition personnel been integrated into the time-sensitive targeting C2 network?

(2) Have multinational/coalition personnel been involved in development of time-sensitive targeting restrictions (ROE, CDE, sovereign territory limitations, etc.)?

(3) Do multinational/coalition personnel have access to mission-critical time-sensitive targeting systems and applications (TST Manager, SIPRNET, chat, etc.)?

(4) Has multinational/coalition access to classified systems and information been defined?

(5) Have multinational/coalition personnel been involved in TST Cell organization, coordination, planning, and training?

(6) Are TST Cells aware of specific multinational/coalition capabilities (ISR assets, strike assets, Special Forces)?

(7) Has a coalition support team been assigned to the coalition force to guarantee communications connectivity and to perform the time-sensitive targeting functions for the coalition force?

3. Execution

a. Daily Preparations/Operations

(1) Has changeover brief been completed?

(2) Are TST Cell systems started, configured, autorefreshed, and alert notification enabled?

(a) TBMCS – logon.

(b) PC – logon.

(c) TST Manager – logon.

(d) Chat – logon.

(e) EMC (UNIX)/ESTAT (PC).

(f) ADOCS.

(g) Situational Awareness and Assessment or C2PC.

(h) AAT.

(i) SMA.

(j) EM reports.

(k) Office applications.

(l) Web browser.

(m) E-mail (SIPRNET and JWICS).

(n) Improved Multi-link Translator and Display System /ADSI (STC only).

(3) Is the functional communications check complete (radio, telephony, other circuit)?

(4) Have units attended combat operations changeover briefings?

(5) Have backup maps been created?

(6) Have the daily guidance/execution plans/summaries/products been reviewed?

(a) JFC TST guidance and daily priorities.

(b) JFACC priority targeting guidance and daily priorities (AOD).

(c) Current ATO.

(d) Current ACO.

(e) SPINS.

(f) ROE.

(g) Target Lists (TST, NSL, RTL, Joint Target List).

(h) ISR Collection Plan/Reconnaissance, Surveillance, and Target Acquisition Annex.

(i) NAIs/TAIs.

(7) Has the friendly resource status, positions, configurations, locations, schedules, and postures been updated as required?

(a) Airborne alert assets.

(b) Ground alert assets.

(c) Possible rerole assets.

(8) Has the POC, listing for all products and briefings, been updated?

(9) Have inputs for briefings/reports provided?

(10) Has the position handoff with the incoming crew been performed?

(a) High priority missions and availability of forces.

(b) Status of assigned friendly forces.

(c) Status of preplanned and airborne alert assets.

(d) Ground alert availability.

(e) Current and forecast weather for the period.

(f) Status of communications equipment.

(g) Significant events during period.

(h) Significant events planned for next shift.

(11) Systems logged off and shutdown?

(a) Close applications as required.

(b) Logoff TBMCS/PC.

b. Find Phase

(1) Is there sufficient confidence to declare a track an emerging TST? Does it meet TST criteria?

(2) What ISR sensors are available to refine the target ID further?

(3) If emerging target does not meet TST criteria, has it been passed to appropriate deliberate planners?

(4) Has emerging target been nominated into joint tactical data network manager?

c. Fix Phase

(1) Has emerging target been fixed? Has it been annotated in joint tactical data network manager/collaborative tools (JTSTM)?

(2) Has emerging target been classified?

(3) Has the emerging target been positively identified, and passed to the TST manager from joint tactical data network manager if necessary?

(4) Does the TST correlate to known target/enemy order of battle in existing databases, i.e. modernized integrated database (MIDB)?

(5) Has all target status been updated in collaborative tools (JTSTM)?

(a) Prioritized.

(b) Remarks to initiate follow-on actions.

(6) Where is the TST located in the battlespace?

(a) Beyond forward boundary.

(b) FSCL to forward boundary.

(c) Forward line of own troops to FSCL.

(d) Rear area.

(e) JSOA.

(f) Amphibious objective area.

(7) What are the command relationships at the TST location?

(a) Who is the supported commander?

(b) Who are the supporting commanders?

(8) Are sensors on target?

(9) Has movement and/or estimated dwell time of TST been posted on collaborative tools?

d. Track Phase

(1) Are additional ISR sensors necessary to track TST? Have they been prioritized requested, deconflicted, and ordered? If not, who has decision authority to do so?

(2) What additional data do available sensors require to cross-cue?

(3) Has target status and location been updated in TST Manager?

e. Target Phase

(1) Is TST valid and actionable?

(a) TST criteria met?

(b) Restrictions resolved?

- CD Guidance.
- ROE and LOAC.

(c) No Strike List?

(d) Joint Target List?

(e) Restricted Target List?

(2) Are target materials available (Web electronic target folders)?

(3) Updated target location issues?

- (a) Coordinates mensurated if required? Passed to engagement platform?
- (b) Target vulnerability.
- (c) Target area threat.
- (d) Target area weather.
- (e) Target identification/PID required before weapons release.
- (f) Target area terrain.
- (g) Target coordinates.
- (h) Target area ACMs/FSCMs? Any effect that will have to be changed/coordinated?
- (i) Target area deconfliction and clearance of fires including SOF, OGA?
- (j) BDA scheduled and ordered?
- (4) Weapon-target pairing complete?
 - (a) Desired effects.
 - (b) Intelligence loss.
 - (c) Weaponeering.
 - (d) All available weapon types included in analysis?
 - (e) Request for assignment of forces or re-role complete and ordered?
 - (f) Time on Station?
 - (g) Weapons loadout?
- (5) CDE (conventional effects and potential WMD release) performed for current or projected TST location and weapons?
- (6) Fratricide assessment performed?
 - (a) Other JFC or component imposed restrictions.
- (7) Risk Assessment completed?
 - (a) SEAD package developed and coordinated, if required?
 - (b) DCA package developed and coordinated, if required?
- (8) Inflight refueling developed and coordinated, if required?
- (9) TST planning card completed if required? Updated in collaborative tools (JTSTM, etc. see Figure C-1 and C-2.)?
- (10) Mission and target attack brief submitted to appropriate authority?
- (11) Mission approved? If denied, determine whether further tracking is approved.
- (12) If approved, ATO changes submitted? Has JTCB been informed of reroles?
- f. Engage Phase (General)
 - (1) Does engagement authority accept risk assessment?

(2) Has engagement been approved by appropriate authority?

(3) Has engagement authority been passed to appropriate component commander on collaborative tools (JTSTM, etc.)? Receipt verified on collaborative tools?

(4) Command mission tasking (J9.0 message or voice) complete and sent to C2 node?

(a) Additional remarks sent via J28.2 message or voice to C2 node for clarification?

(b) C2 node acknowledged tasking, coordinated, and transmitted to attack assets?

(c) C2 node provided tactical mission updates, time on target (TOT)? Updated in collaborative tools?

(5) Did attack assets complete time-sensitive targeting process (F2T2EA) for the TST?

(6) Is restrike required?

(7) Is BHA available from the attack asset?

(8) Is additional information of target available?

(9) Has attack asset submitted mission report to appropriate authority?

(10) Is continuous cross talk with C2 and attack assets maintained?

g. Engage Phase - Surface Fires Specific Checklist

(1) Has permission been requested from the commander responsible for the target area to strike?

(2) Has the commander or representative determined whether means are available to strike?

(3) Commander decided to attack the target?

(4) Is the airspace clear?

(5) If clear, ground component ordered to attack?

(6) If not clear, when will airspace clear?

(a) If in time to attack, do so.

(b) If not, defer target and continue to track.

(c) If TST priority is high enough, notify air component and attack when “bullseye” call is made.

(7) Did the C2 node broadcast the “bullseye” call?

(8) Has the ground component launched? Have they submitted a mission report?

h. Assess Phase

(1) Inflight report received from attack assets? Updated in collaborative tools (JTSTM, etc.)?

(2) Have target objectives been achieved? If not, is immediate restrike feasible?

- (3) What is the timeframe for restrike?
- (4) Is initial BHA available from nonattack assets?
- (5) If target objectives were met, were they updated on collaborative tools (JTSTM, etc.)?
- (6) Were TST and associated collaborative tools data passed to BDA Cell for further assessment?
- (7) Has the CM been notified of the time-sensitive targeting timeline and BDA requirements?
- (8) Does the collection plan support BDA and restrike timelines? If not, has the BDA collection request been incorporated into future plans?
- (9) Is Phase I BDA sufficient to recommend restrike?
- (10) Is Phase II BDA timeframe supportive of restrike timeline? Should target continue to be tracked?
- (11) Was there any release of WMD or Toxic Industrial Materials/Chemicals (TIC/TIM) from the target area following the strike?

1-Mission Commander					
2A- <u>Action Directed</u>			2B-Target Description		
3- DMPI INFO					
BE #/ TRK #	TGT	LATITUDE	LONGITUDE	ELV	WPN/FUZE
		N	E		
		N	E		
		N	E		
		N	E		
4-Coordinate Accuracy High Med Low					
5-Attack Axis		6-C2 C/S: FREQ:		7-Friendly Location	
8-Threat Data					
9-Remarks Marshal Location: Time On Target: CDE:					
10-Package Info					
C/S	ACFT	SCL	MSN	REMARKS	
Package Remarks					
11-OCA		12-SEAD/EA		13-AR	14-Strike

Figure C-1. Example Aircrew TST Planning Card (Front)

<p>Sample Comm from AWACS to TST Mission Commander "Viper 11, Starfleet, standby for TST tasking, call ready to copy.. Action directed is: _____. Target is SCUD at N3322.721 E04254.532. (OR targets follow): DMPI #1 - TST01: Power Van at N3322.701 E04254.539, Elevation: 312 ft, GBU-12 with impact fuzing DMPI #2 - TST02: Antenna at N3321.699 E04254.531, Elevation: 309 ft, GBU-12 with 25ms delay DMPI #3 - TST03: CC Bunker at N3321.693 E04254.500, Elevation: 212 ft, Blu109 with 60ms delay Coordinate Accuracy is High Attack Axis is 310 to 330. Nearest Friendly: Playboy 03 on Gold 55. From target, BRA 230/15 CDE is Low. Threats: SA-3 at N3344.00 E04455.00 E4234 From target 010/22nm Remarks: Marshall location: Cell 8A5 TOT NLT 0500Z. Track #1234 Package Information: Hornet 17 - 2 x F-18 / SEAD Prowler 33 - 1 x EA-6B / EA Eagle 21 - 2 x F-15C / OCA"</p>	
<p>Brevity/Code Words</p> <p>1. _____</p> <p>2. _____</p> <p>3. _____</p> <p>WPN/FUZE: will only be given if: <input type="checkbox"/> Target requires specific weapon/ fuze combination for weapons effects OR <input type="checkbox"/> Collateral damage considerations restrict blast/frag (i.e., GBU-12 required vs. GBU-31).</p>	<p>Coordinate Accuracy HIGH = Coordinate accuracy suitable for INS/GPS-aided weapons employment (Link 16 track quality (TQ) 15) MED = Falcon View quality coordinates; target in TGP narrow FOV from 20-30K ft. (TQ 10) LOW = Area coordinates (i.e. SIGINT ellipse - TQ 3) Attack Axis: Designed to minimize collateral damage or provide the best opportunity for target detection. Attack Axis may not be given. C2 Information will be passed when pushed to C2 agency or SOF team, normally given if target resides in friendly operating area. Threat Data: will be given based upon latest EOB available. Format will either be LAT/LONG format or bearing and range from target. Marshal Location : recommended location for marshalling of TST package. Will be given in CGRS format (8A5); the default is the middle of the Cell assigned (the "5" key on the keypad). TOT: will only be given when required for: <input type="checkbox"/> Airspace/package deconfliction, or <input type="checkbox"/> High priority targets that have inherent time constraints (fleeting targets). CDE (Collateral Damage Estimate) <u>Low</u> = collateral damage not a factor <u>Unknown</u> = CAOC unable to assess CDE based upon current imagery or uncertainty of coordinate accuracy. Pilot is required to assess CDE prior to weapons employment. Package Info: only given if TST package not "as fragged" and additional assets are required to attack the target.</p>

Figure C-2. Example Aircrew TST Planning Card (Back)

Appendix D

COMUSCENTAF COUNTER-SCUD CONOPS AND PLAYBOOK

This Appendix presents the Commander, United States Air Force, Central Command (COMUSCENTAF) Combined Counter SCUD Concept of Operations (CONOPS) and Playbook as used in Operation Iraqi Freedom (OIF). The Playbook was a result of several months of planning and preparation as discussed in the Chapter 4 of the TST MTTP. The planning and training (and associated timeline) that went in to the document is presented as well. Appendix D is classified SECRET REL GBR/AUS and can be found online via SIPRNET at:
<http://wwwacc.langley.af.smil.mil/alsa/tst/tst.htm>.

Appendix E

TST ISR AND ATTACK RESOURCES

1. Overview

a. This appendix serves as a **sample quick reference summary** of possible strike and ISR assets that could be available to find, fix, track, engage, and assess TSTs. Assets listed in this annex cover present US military systems. There may be additional assets, with their own unique capabilities, available from multinational partners and nonmilitary agencies.

Note: Due to the ever-changing capabilities and availability of resources in the DOD and multinational inventories, it is impractical to produce and maintain a current listing of all possible assets available for time-sensitive targeting operations. Therefore, this annex is only meant to be a **rough sample** of a quick reference list that the time-sensitive targeting planners should produce prior to the start of hostilities. The major sources of information to produce a current and relevant list of time-sensitive targeting resources will be the subject matter experts assigned to the TST Cells and the component and OGA LNOs.

Published ISR and attack asset references include, but are not limited to:

JP 3-60, *Joint Doctrine for Targeting*

JP 3-33, *Joint Force Capabilities*

JP 2-01.1, *Joint TTP for Intelligence Support to Targeting*

FM 34-130, *Intelligence Preparation of the Battlefield*

AFDD 1-1, *Air Force Task List (AFTL)*

ALSA, *J-Fire* (FM 3-09.32, NTTP 3-09.2, MCRP 3-16.8B, AFTTP(I) 3-2.6), available at: <https://wwwmil.alsa.mil/> or <http://www.alsa.mil> or on SIPRNET at <http://www.acc.af.smil.mil/alsa/> or 757-225-0902/0960, or alsaa@langley.af.mil.

Weapons System Handbook, published by the US Army. Available on line at

<http://www.fas.org/man/dod-101/sys/land/docs/wsh.htm>.

ISR references are available on line via SIPRNET at <http://intelink.ig480.langley.af.smil.mil> (480th Intelligence Group, DSN 575-0690, comm. 757 225-0690, e-mail 480igcc2@langley.af.mil, SIPRNET e-mail 480igcc@langley.af.smil.mil, SCI home page <http://intelink.accis.ic.gov>).

ACC Intelligence Handbook. Available online at: <https://in.acc.af.mil/>, includes *ISR Support to the JFACC TTP (JFACC TTP)*, published by HQ ACC/INXX, DSN: 575-4833.

ACC C2ISR TTP (Secret). Provides a description of the reconnaissance, surveillance, and special mission aircraft, information on SIGINT, IMINT, MASINT, and HUMINT. Available via SIPRNET at: <http://in.acc.af.smil.mil/Sttp/>

b. The distinction of traditional “shooters” and “sensors” is not always clear-cut. In many cases, attack assets also have sensor capabilities (such as aircrew visibility and targeting systems on manned aircraft). Platforms originally designed for an ISR role may also carry weapons (such as Hellfire armed Predators). It is important to understand and be able to utilize all such nontraditional shooter and sensor assets to maximize our capabilities against TSTs. Keep an open mind, and be ready to consider new approaches. For example, if the target were of a high enough priority, and no other strike assets were available, the commander might consider employing the UAV as a precision guided means to strike the target as a last resort.

2. ISR Assets

a. Various sensor platforms, both manned and unmanned, provide to the warfighter the capability of detecting, identifying, and tracking TSTs, as well as providing combat assessment after an attack. Traditional ISR platforms are most effective when cross-cued and linked to provide multiple sources and types of information. Nontraditional ISR platforms such as fighter and bomber aircraft have radar-warning receivers with limited ESM capabilities, SAR, and MTI capabilities, and carry a variety of targeting pods (Table E-1).

Table E-1. Tactical Aircraft Targeting Pods and AC-130 Sensors

Targeting Pod	Sensor	Laser Spot Tracker	Laser Target Designator	Marking Capability
LANTIRN	IR	No	Yes	No
LITENING II	Forward-Looking Infrared (FLIR) CCD-TV	Yes	Yes	Laser marker
Sniper XR	Mid-Wave IR CCD-TV	Yes	Yes	Laser marker
Terminator ATFLIR	Mid-Wave IR CCD-TV	Yes	Yes	Laser marker
HARM targeting system (F-16 block 50 only)	ESM	N/A	N/A	N/A Note: Link-16 capable
AC-130H	LLTV Low Light TV 360° IR Detector	Yes	Yes	IR-Zoom-Laser-Illuminator-Designator Pinpoint Laser Intensifier
AC-130U	Strike Radar 3600 IR Detector All Light Level TV	Yes	Yes	Gated Laser Intensifier Night Targeting Note: IR-Zoom-Laser-Illuminator-Designator Expected to Replace Gated Laser Intensifier Night Targeting

Note: TLEs of the various targeting pods are downloadable via SIPRNET at:
<ftp://204.20.167.130/tle> or <http://www.nellis.af.smil.mil/afttp/default.htm> .

b. Manned Airborne Platforms.

(1) Manned airborne platforms allow flexible options and detailed information gathering in both their ability to be redirected and their array of sensors, their long range, and rapid response time (Table E-2). A limiting consideration in their employment is their vulnerability in a high threat environment and inclement weather flying restrictions.

Table E-2. Aircraft ISR Systems

Platform	Service	Operational Parameters	Type Info Collected	C2 Links
E-2C Hawkeye	USN	Max speed: 310 kts Ceiling: 30,000 Range: 1,300 nm Endurance: 5 hrs	ELINT RADAR	SATCOM JTIDS (link 16) Link 11
E-3 Sentry (AWACS)	USAF	Cruise speed 360+ MPH Ceiling 29,000+ ft Range: 4,400 nautical miles (nm) (unrefueled) Endurance 8+ hrs	RADAR ELINT	SATCOM TADIL-A JTIDS (Link 16)
E-8C JSTARS	USAF	Max Speed: 510 kts Ceiling: 42,000 ft Range: 8 hrs (un-refueled) Endurance: 24 hrs max refueled	Moving Target Indication (MTI)/Synthetic Aperture Radar (SAR)	LOS SCDL (Surveillance and Control Data Link) JTIDS (Link 16) IDM, SADL
EA-6B Prowler	USN	Max speed: .99 mach, Ceiling 40,000 ft Radius: 425 nm Endurance: 8 hrs (crew fatigue)	ELINT EA	IDM
EC-130H Compass Call & EC-130E/J Commando Solo	USAF	Max Speed: 272 kts (.64 mach) Ceiling: 27,000 ft Range: 2,100+ miles Endurance: 10 hrs	COMINT ELINT IW EW	SATCOM
EC-130 Senior Hunter/Scout and Warrior	USAF	Max Speed: 272 kts (.64 mach) Ceiling: 27,000 ft Range: 2,100+ miles Endurance: 10 hrs	COMINT ELINT PSYOP	TADIL TIBS
EH-60 "Quick-Fix"	US Army	Max Speed: 160 kts Ceiling: 19,000 ft Range: 250 nm (288 mi/463 km) Endurance: 17/10 hrs	COMINT ELINT	SATCOM option
EP-3 Aries II	USN	Max Speed: 411 kts Ceiling 28,300 ft Range: 2,380 mi Endurance: 13 hrs	SIGINT ISAR COMINT ELINT	Link 11 OTCIXS TIBS, CTT IDM
F-14 Tactical Airborne Reconnaissance Pod System	USN	Max speed: 1,544 mph Ceiling: 50,000 ft Radius: 500 nm (unrefueled) Endurance: N/A	IMINT	Encrypted data link
F-16 Theater Airborne Reconnaissance System	USAF	Max Speed: 1500 kts Ceiling: Pod: 35,000 ft Radius: 500 nm Endurance: N/A	IMINT	N/A* (record only) *Common Data Link (CDL) being tested IDM
F/A-18D Advanced Tactical Airborne Reconnaissance System	USMC	Max Speed: Mach 1.8 Ceiling: 50,000 ft Radius: 500 nm (unrefueled) Endurance: N/A	IMINT (FLIR)	CDL

F/A-18 E/F	USN	Max Speed: Mach 1.7 Ceiling: 50,000 ft Radius: 500 nm Endurance: N/A	IMINT	JTIDS (Link 16) Fast Tactical Imagery (FTI)
P-3C Orion anti-surface warfare Improvement Program	USN	Max Speed: 411 kts, Ceiling: 28,300 ft Range: 2,380 miles Endurance: 13 hrs	IMINT EO/IR SAR	SATCOM CDL planned
RC-7 Airborne Reconnaissance-Low- Multifunction (ARL-M)	US Army	Max Speed: 310 kts Ceiling: 25,000 ft Range: 1,400 nm Endurance: 8-10 hrs	COMINT IMINT (EO/IR) SAR/MTI	SATCOM CDL
RC-12 Guard Rail	US Army	Max Speed: 250+ kts Ceiling: 31,000 ft Range: 1200 nm Endurance: 5+ hrs max	COMINT ELINT	Tactical Reconnaissance Exchange System (TRIXS) CDL
RC-135 V/W Rivet Joint	USAF	Max Speed: 500+ (.84M) Ceiling: 35k ft Range: 4,917 nm Endurance: 10 hrs	SIGINT COMINT ELINT	LINK 11, TADIL A IDM TIBS JTIDS (Link 16)
U-2	USAF	Max speed: 475+ MPH Ceiling: above 80,000 ft Range: 6,000+ miles Endurance: 15 hrs	SIGINT IMINT (wet-film or EO) ELINT MTI	CDL SATCOM

c. **Unmanned Aerial Vehicles.** UAVs have many of the same benefits as manned airborne sensors without risking human life. This makes them an excellent asset to provide surveillance of heavily defended areas. They are readily redirected if required, possess long loiter times, and provide real time feedback (Table E-3). UAV sensor packages can be degraded by adverse weather. UAV operations are very sensitive to icing and lower level winds. Coordination must take place between planning and weather personnel to prevent loss of a UAV due to weather conditions. It is also possible to deploy weapons on UAVs such as the Hellfire armed Predators.

Table E-3. Unmanned Aerial Vehicle Capabilities

Platform	Service	Operating Parameters	Type Info Collected	Data Links
RQ-/MQ-1 Predator	USAF	Speed 70 - 110 kts Max ceiling 25,000 ft Range 500 nm Endurance 40 hours	IMINT (EO/IR, SAR)	Real-time C-band video broadcast SATCOM
RQ-2 Pioneer	US Army USN USMC	Speed 110 kts Max ceiling 15,000 ft Range 100 nm link limit Endurance 5.5 hrs	IMINT (EO/IR)	Real-time C-band video broadcast (LOS)
RQ-4 Global Hawk	USAF	Speed 345 kts (max) Max ceiling 65,000 ft Range 14,000 nm Endurance 42 hrs	IMINT (EO/IR, SAR, MTI) SIGINT	Common Data Link (CDL)
RQ-5 Hunter	US Army	Speed 70 - 110 kts Max ceiling 15,000 ft Range 67.5 nm (125 km) (162 nm with air relay) Endurance 11.6 hrs	IMINT (EO/IR)	Real-time C-band video broadcast (LOS)

d. **Space-Based Sensors.** Space-based sensors provide long-term, large-area surveillance with excellent resolution and with minimal vulnerability to enemy actions. Depending on orbit and positioning, they may suffer gaps in surveillance periods and may be difficult to shift to a new surveillance area. Some sensors may be degraded by adverse atmospheric weather conditions. By their nature, satellite coverage schedules are predictable and the enemy can adjust activities to avoid detection. In addition, the responsiveness of information from space-based assets may not meet the timelines of time-sensitive targeting.

e. **National Systems.** National systems and their associated capabilities are protected under classified channels. National Intelligence Support Teams are unique DOD assets that enable joint warfighter connectivity into National Technical Means. National Intelligence Support Teams are the single contact point for national level, all-source intelligence support to commanders during either crisis or contingency operations. Team members facilitate the flow of timely all-source information between unified commands and task forces and national intelligence agencies for a wide variety of situations from combat, to military operations other than war, to domestic support operations as well as exercises. National Intelligence Support Team support requests, once validated by the JFC, are transmitted via proper channels to the Joint Staff Washington DC//J2/J2O.

f. **General Purpose Reconnaissance and Surveillance and Special Reconnaissance Forces.** Small, highly trained teams can provide numerous capabilities for gathering ISR data on possible TSTs. In many situations, such as operations in urban areas, these types of teams provide ISR that cannot be satisfactorily accomplished with any other assets. Mission duration and range are dependent upon availability of re-supply (by cache sites, aircraft, etc.), terrain, climate, and team training.

Table E-4. Reconnaissance and Surveillance Forces

Team / Unit Name	Range	Type Info Collected	Sensor (s)
Special Reconnaissance (US Army Special Forces, Rangers, Navy SEALs or USAF Special Tactics Teams)	Unlimited	HUMINT MASINT IMINT Technical	Binoculars Spotting scopes Other as required
Combined Unconventional Warfare Task Force Teams	Unlimited	HUMINT Technical	As required
Division Reconnaissance Team (USMC)	4-6 day mission	HUMINT MASINT	Binoculars M40A1scope Spotting scope
Force Reconnaissance Teams (USMC)	4-6 day mission	HUMINT MASINT	Binoculars M40A1scope, Spotting scope KOWA spotting scope ¹ SOPHIE Hand-Held Thermal Imager ²
Scout/Sniper Platoon, Infantry Battalion (formerly "STA Platoon")	Ideally within range of fire support; within 10 KM of FLOT	HUMINT MASINT	10-power Inertial scope Binoculars Fixed spotting scope
Long Range Surveillance (LRS) Teams (U. S. Army)	Unlimited	HUMINT MASINT Technical intelligence	Observation of objective maintained during day and night, as well as periods of reduced visibility out to 5000m
Mobile Electronic Warfare Support System (MEWSS)	N/A	SIGINT HUMINT	Classified
Radio Reconnaissance Units (USMC Radio Bn)	N/A	SIGINT HUMINT	Classified
Sensor Control Management Platoon (SCAMP) USMC MEF HQ	N/A	ELINT MASINT	Tactical Remote Sensor System (TRSS)
HUMINT support element ³	N/A	HUMINT	N/A

¹ Observation ranges can range from 4-6 KM (positive ID using KOWA) and terrain dependent slightly further (positive ID not likely).
² SOPHIE thermal imaging device can, under ideal conditions, observe targets to 10 KM.
³ Defense HUMINT Service (DHS). A HUMINT support element should be located at each combatant command. J2X provides HUMINT coordination for JTF. INSCOM is the Army Defense HUMINT Service agency.

g. Generally, a wide range of joint force capabilities, both lethal and nonlethal, is suitable for engaging TSTs. Some, but not all of these may include conventional artillery, rockets and missiles, rotary and fixed wing aircraft, cruise missiles, naval surface fire support, SOF, recon units, computer network attack, and electronic warfare. The selection of assets for engaging TSTs may be significantly influenced by factors such as JFC desired effect, availability, capability, or engagement characteristics of weapon systems, weather conditions, and ROE.

3. STRIKE ASSETS

a. Artillery.

(1) Cannon artillery is usually the most numerous system available for striking TSTs in the battlespace. They provide near immediate response times, 24-hour availability, and all-weather capability. Cannons offer both precision and area fires, as well as high volume and a variety of munitions. However, their limited firing ranges make them most suitable for TSTs located in the general area between the fire support coordination line and the forward line of their own troops.

(a) Advantages:

- All weather capability.
- Accuracy.
- Rapid response time.

(b) Disadvantages and considerations for employment:

- Limited range: max 30 km/ 16 nautical miles (nm).

b. Rockets and Missiles.

(1) Multiple Launch Rocket System. The MLRS attacks counter fire, enemy air defenses, light materiel, and personnel targets. The MLRS is a free-flight, area-fire, artillery rocket system that supplements cannon artillery fires by delivering large volumes of firepower in a short time against TSTs. The basic warhead carries dual-purpose improved conventional submunitions.

(a) Advantages:

- Increased range (max 45 km / 24 nm).
- All weather capability.
- Wide area coverage.
- Rapid response time.

(b) Disadvantages and considerations for employment:

- Limited effectiveness against hardened targets, CD concerns, and submunition dud rate.
 - The only munition MLRS has available is dual-purpose improved conventional submunitions, which (exact percentage is dependant on the terrain) will produce dud bomblets that are hazardous to dismounts, light vehicles, and civilians.
 - The high altitude of the trajectory of rockets fired at long ranges, which affects airspace deconfliction.

(2) Army Tactical Missile System. ATACMS provides long-range, surface-to-surface fire support. The ATACMS are ground-launched missile systems consisting of a surface-to-surface guided missile with an anti-personnel/anti-materiel (APAM) or brilliant antiarmor technology submunition warhead. ATACMS possesses the responsiveness of MLRS, but with a much greater range. Although the ATACMS

submunition warhead is designed for attack of soft targets, its accuracy and all-weather capability, coupled with the extended range and quick response time, make it a formidable system against TSTs. The high angle of launch and impact, along with a very high altitude flight path, does not require large amounts of airspace to be deconflicted prior to firing. However, since the missile cannot be redirected after launch, it is difficult to employ against moving targets.

(a) Advantages:

- Range (max 300 km / 160 nm).
- Accuracy (GPS-guided).
- All weather capability.
- Wide area coverage.
- Rapid response time.

(b) Disadvantages and considerations for employment:

- Limited effectiveness against hardened or moving targets and the dud rate for DPICM, APAM, and BAT.
- The high altitude of the trajectory of rockets fired at long ranges, which affects airspace deconfliction.

(3) Cruise Missiles.

(a) The long range and accuracy of cruise missiles make them an excellent weapon for use against targets in high threat areas, but the lead-time required to plan and execute cruise missile missions could be a limiting factor against TSTs.

(b) US Navy Tomahawk Land Attack Missile (TLAM). TLAMs can be effective interdiction assets and potent employment options for the joint force. Several variants provide single warhead unitary blasts or multi-effect submunition capabilities. Low risk, accuracy, and range make missiles most viable in the planning of interdiction contingency operations against stationary, nonhardened targets. The TLAM weapon system may require coordination between strike planners in the operational area and supporting mission planners out of the operational area. This is an ongoing process independent of the decision to use the weapon. With proper preplanning, TLAMs are capable of conducting short-notice strikes, without aircraft support, against targets in heavily defended areas where the probability of the loss of manned aircraft is too high. TLAMs are also capable of neutralizing enemy air defenses to facilitate a much larger attack by land- and sea-based airpower. The associated afloat planning systems suites provide the maritime component commander with the capability to plan new missions or modify selected missions in the operating area.

(c) Advantages:

- Range (1800 km/990 nm), accuracy, and all weather capability.

(d) Disadvantages:

- Response time.

c. **Manned Aircraft.** Due to their range, speed, and flexible weapon selection, manned aircraft are well suited to attack TSTs. Because the aircrew can provide “eyes on” during the attack, manned aircraft are of particular advantage when attacking mobile targets or when exact target coordinates are unavailable. However, a permissive threat environment or SEAD may be required to avoid unacceptable risks to aircraft and aircrews. Rapid deconfliction of airspace can be a challenge in a congested environment. Manned aircraft possess both day and night capability, but are weather-dependent and fuel dependent.

(1) Rotary Wing Aircraft. Attack helicopters provide excellent accuracy and the capability to search for and attack targets. They feature an array of weapons but have relatively short range if extensive loiter or search and attack operations are called for. They are day and night-capable, but are more vulnerable to enemy tactical air defenses due to low altitude and relatively slow speed. However, due to their capability of slower, low-altitude flight, rotary-wing aircraft can often operate in poorer weather conditions than fixed-wing aircraft.

(a) Advantages:

- Rapid response times.
- Weapons accuracy.

(b) Disadvantages:

- Inclement weather flying restrictions.
- Speed.
- Limited range and available munitions.
- Vulnerability to enemy fire.

(2) Fixed Wing Aircraft. The ability of fixed-wing aircraft to move long distances in relatively short times, along with their component coordination and control capabilities, provides the force with the flexibility to quickly mass throughout the battlespace. Weapon payloads (to include nonlethal systems such as jammers) can be adjusted to suit the mission, and with air refueling they are capable of extended loiter times. If needed, these assets can be quickly diverted in-flight to a new target as long as suitable communications links are available.

(a) Advantages:

- Range.
- Accuracy.
- Rapid response time.

(b) Disadvantages:

- Inclement weather flying restrictions.
- Vulnerability to enemy fire.

d. **Naval Surface Fire Support.**

(1) Naval Surface Fire Support provides the advantages of responsive, all weather, and mobile gun and missile support. However, naval gunfire is relatively short ranged, limited in the volume of fire available, and restricted to use in the littoral area when attacking land-based targets. Navy surface vessels also have the capability to jam shore-based targets. US Navy cruisers and destroyers are armed with a 5-inch, 54-caliber, MK 45, lightweight gun which provides accurate naval gunfire against fast, highly maneuverable surface targets, air threats, and shore targets.

(a) Advantages:

- Accuracy.
- Rate of fire.
- All weather capability.

(b) Disadvantages:

- Range (max 23 km / 12 nm).
- Limited volume of fire.

e. SOF /USMC Force RECON Direct Action.

(1) One of the many capabilities provided by SOF (and other small units) is the attack of operational targets by direct action. SOF are specially trained and equipped units with unique skills enabling them to penetrate deep into enemy areas to execute critical missions. These units are rapidly deployable and can be inserted by parachute, boat, submarine, helicopter, or on foot. SOF primary contribution against TSTs is clandestine and/or covert reconnaissance, surveillance, and terminal guidance and control of weapons systems. If required, SOF can be employed to destroy or disable a TST, but if not planned for well in advance of the operation, this may compromise their primary mission and require extraction of the team.

(a) Advantages:

- Range.
- Accuracy.
- All weather capability.

(b) Disadvantages:

- Extensive mission planning and rehearsal time.

(2) Figure E-1 is an example of an attack asset matrix that can be filled out and used as a quick reference guide of assets available to prosecute TSTs. Resources to fill in the matrix include:

JP 3-33, *Joint Force Capabilities*

AFDD 1-1, *Air Force Task List (AFTL)*

ALSA, *J-Fire* [FM 3-09.32, NTTP 3-09.2, MCRP 3-16.8B, AFTTP(I) 3-2.6], available online at: <https://wwwmil.alsa.mil/> or <http://www.alsa.mil> or on SIPRNET at <http://www.acc.af.smil.mil/alsa/> or 757-225-0902/0960, or alsaa@langley.af.mil

Weapons System Handbook, published by the US Army. Available online at: <http://www.army.mil/usapa/doctrine/>

Artillery/Rockets Missiles/NGF	Service	Weapons	Range	C2 Links
<u>ATACMS</u> Block1 Block 1A Block 2	US Army	950 APAM 300 APAM 13 brilliant antiarmor	25 km – 165 km 70 km – 300 km 35 km – 145 km	SINGARS HF TCP/IP TACLAN TACSAT (V)
Aircraft	Service	Weapons	Sensors	C2 Links
AH-64 "Apache Longbow"	US Army	AGM-114 Hellfire missiles 2.75" rockets 30mm cannon	NVG FLIR DTV DVO MMW RADAR	IDM VHF UHF

Figure E-1. Example Attack Asset Matrix

Appendix F

TIME-SENSITIVE TARGETING COLLABORATION TOOLS AND TTP

1. Overview

This *Appendix* provides an overview of collaboration tools employed by TST Cells, and offers TTP for their use. The information in this appendix is organized as follows:

- a. ADOCS.
 - (1)JTSTM.
 - (2)TDN.
 - (3)ITM.
 - (4)Time Critical Target Functionality (TJTF) - TCT Operations Execution Module (TOEM).
- b. Other Collaborative Tools.
 - (1)IWS.
 - (2)Text Chat, Audio Chat, and Secure Conferencing.
 - (3)Whiteboarding.
 - (4)DCTS.
 - (5)mIRC.
- c. JTSTM TTP.
- d. TDN TTP.
- e. Appendix F is unclassified and is available online at: <https://wwwmil.alsa.mil/TST.htm> or <http://www.alsa.mil>.

Appendix G

COMMON GEOGRAPHIC REFERENCE SYSTEM

1. Overview

CGRS is primarily an operational-level administrative measure used to coordinate geographical areas rapidly for battlespace, deconfliction, and synchronization. This reference system provides a common language between the components, and simplifies communications. The information in this appendix is organized as follows:

- a. Overview.
- b. CGRS Labeling and Identification.
- c. CGRS Development.
- d. CGRS Applications.
- e. Modernized Integrated Database (MIDB) Integration.
- f. Appendix G is classified 'restricted distribution/for official use only' and is available online at: <https://wwwmil.alsa.mil/TST.htm> or <http://www.alsa.mil>.

Appendix H

JOINT SPECIAL OPERATIONS AREAS

1. Background

a. Recent conflicts have shown that the modern battlefield can be of a noncontiguous nature. SOF operating in this environment require the ability to move within their assigned operating area rapidly in order to insure the timely identification and prosecution of TSTs. To facilitate this rapid movement, and at the same time allow maximum freedom of maneuver for airborne strike assets, the JFSOCC and JSOTF headquarters must establish procedures to quickly change the boundaries of JSOAs and the FSCMs and ACMs protecting the forces within these JSOAs in a manner that is easily transmitted and visualized by higher headquarters, the JAOC, and any other units providing dedicated joint fires support to these forces.

b. Common Geographic Reference System.

(1) To accomplish TST-focused operations on such a rapidly changing noncontiguous battlefield, SOF has successfully utilized a CGRS methodology, to rapidly adjust the JSOA boundaries by closing and opening keypads as JSOTF forces move across the map (see Appendix G, Common Geographic Reference System, for further detail). The simplicity of the CGRS allows the JAOC, airborne C2 platforms and airborne strike platforms to rapidly communicate on boundary changes and identify those new boundaries from the cockpit. The CGRS keypad structure may be used to define a JSOA boundary. The keypad construction may also be used to delineate the borders of FSCMs (e.g. NFAs) and ACMs (e.g. altitude restrictions) within a JSOA. The effectiveness of this construct relies on the ability to communicate CGRS cell status changes rapidly through preplanned procedures agreed upon by the JSOTF HQ, higher HQ, and the JAOC.

(2) A JSOTF boundary change is normally coordinated through the JFSOCC J3. A specific JSOTF may be designated to operate in support of another component. Should the JSOTF JSOA be located within that component's designated operating area, approval for real time changes to the JSOA boundary, required within the current ATO day, should be coordinated directly with the supported component's HQ. This direct liaison authority for boundary change approval is crucial to facilitate the rapid movement of SOF forces, rapid implementation of FSCMs, and the rapid deconfliction and clearance of fires in support of these forces or to prosecute TSTs. Such approval procedures would be coordinated between the supported component, the JSOTF and the JFSOCC.

(3) Traditional JSOA boundaries have previously been delineated by terrain features and/or political/ethnic boundaries. This method may still be required in certain situations, particularly where the intent is to maintain a static JSOA boundary. However, a CGRS can still be overlaid on this type of JSOA.

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GLOSSARY

PART I—ABBREVIATIONS AND ACRONYMS

A

AAMDC	Army Air and Missile Defense Command
ACC	air combat command
ACE	aviation combat element
ACM	airspace control measure
ACO	airspace control order
ACP	airspace control plan
ADOCS	Automated Deep Operations Coordination System
ADSI	Air Defense System Integrator
AF	air force
AFAOC	Air Force air and space operations center
AFATDS	Advanced Field Artillery Tactical Data System
AFB	air force base
AFFOR	air force forces
AFOTTP	air force operational TTP
AFTTP	air force TTP
AMD	air mobility division
AO	area of operations
AOC	air operations center
AOR	area of responsibility
APAM	anti personnel anti material
ARFOR	army forces
ASOC	air support operations center
ATACMS	Army tactical missile system
ATO	air tasking order
AUS	Australia
AWACS	airborne warning and control system

B

BCD	battlefield coordination detachment
BDA	battle damage assessment
BE number	basic encyclopedia number
BHA	bomb hit assessment

C

C2	command and control
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C3	command, control, and communications
C4	command, control, communications, and computers
C4I	command, control, communications, computers, and intelligence
CA	combat assessment
CCO	chief of combat operations
CD	collateral damage
CDE	collateral damage estimation
CDL	common data link
CDM	collateral damage methodology
CE	command element
CGRS	common geographic reference system
CGS	common ground station
CIA	Central Intelligence Agency
CIC	combat information center
CJTF	commander, joint task force (same as JFC)
CJCSI	chairman of the Joint Chiefs of Staff Instruction
CM	collection manager
COA	course of action
COC	current operations cell
COE	consequences of execution
COMAFFOR	commander of Air Force forces
COMINT	communications intelligence
COMUSCENTAF	Commander, United States Air Force, Central Command
CONOPS	concept(s) of operations
COP	common operational picture
COTS	commercial-off-the-shelf
CROP	common relevant operational picture
CSSE	combat service support element
CT	cryptologic technician
CTT	Commander's Tactical Terminal
CV	aircraft carrier
CVN	aircraft carrier, nuclear powered
CVW	carrier air wing

D

DCTS	Defense Collaboration Tool Set
DJFMCC	Deputy Joint Force Maritime Component Commander
DMPI	desired mean point of impact
DOCC	deep operations coordination cell
DOD	department of defense

DTG	date time group
E	
EA	electronic attack
ECM	electronic countermeasures
ELINT	electronic intelligence
EO	electro-optical
ESF	expeditionary strike force
EW	electronic warfare
F	
F2T2EA	find, fix, track, target, engage, and assess
FFCC	force fires coordination center
FLIR	forward-looking infrared
FM	field manual; frequency modulation
FOC	future operations cell
FSCC	fire support coordination center
FSCL	fire support coordination line
FSCM	fire support coordinating measure
FSE	fire support element
G	
G3 (G-3)	assistant chief of staff (operations and plans)
GATT	guidance, apportionment, tasking and targeting
GBR	Great Britain
GCCS	Global Command and Control System
GCCS-A	Global Command And Control System-Army
GCCS-M	Global Command And Control System-Maritime
GCE	ground combat element
GCS	ground control station
GEOINT	geospatial intelligence
GPS	global positioning system
H	
HF	high frequency
HQ	headquarters
HUMINT	human intelligence
I	
IAW	in accordance with
ID	identification

IDM	improved data modem
IMINT	imagery intelligence
INFLTREP	in-flight report
INS	inertial navigation system
INTEL	intelligence
IPB	intelligence preparation of the battlespace
IS	intelligence specialist
ISARC	intelligence, surveillance and reconnaissance cell
ISR	intelligence, surveillance and reconnaissance
IWS	InfoWorkSpace
J	
J2 (J-2)	joint intelligence section
J3 (J-3)	joint operations section
JAOC	joint air operations center
JCS	joint chiefs of staff
JDTL	joint dynamic target list
JFACC	joint force air component commander (ashore or afloat)
JFC	joint force commander
JFLCC	joint force land component commander
JFMCC	joint force maritime component commander
JIC	joint intelligence center
JIPTL	joint integrated prioritized target list
JOC	joint operations center
JP	joint publication
JSOA	joint special operations area
JSOTF	joint special operations task force
JSTARS	joint surveillance target attack radar system
JSWS	joint services workstation
JTC	joint targeting cycle
JTCB	joint targeting coordination board
JTF	joint task force
JTIDS	joint tactical information distribution system
JTSTL	joint time-sensitive target list
JTSTM	joint time-sensitive targeting manager
JWICS	Joint Worldwide Intelligence Communications System
L	
LAN	local area network
LANTIRN	Low-Altitude Navigation Targeting IR for Night

LAT	latitude
LGB	laser-guided bombs
LNO	liaison officer
LOAC	laws of armed conflict
LOC	line(s) of communication
LONG	longitude
LOS	line of sight
LST	laser spot trackers
LTD	laser target designator
 M	
m	meter
MAAP	master air attack plan
MAGTF	marine air-ground task force
MARFOR	Marine forces
MASINT	measurement and signature intelligence
MCC	maritime command center
MCRP	Marine Corps reference publication
MCS	maneuver control system
MCWP	Marine Corps warfighting publication
MEF	Marine expeditionary force
MEU	Marine expeditionary unit
MIDB	modernized integrated database
mIRC	Mardam-Bey Internet Relay Chat
MISREP	mission report
MLRS	multiple-launch rocket system
mm	millimeter
MOC	maritime operations center
MOE/P	measures of effectiveness and performance
MOI	marine operational intelligence
MOS	military occupational specialty
MPC	mission planning cell
MSL	mean sea level
MSOC	maritime strike operations center
MTI	moving target indication (indicator)
MTTP	multi-Service TTP
 N	
N/A	not applicable
NAI	named area of interest

NATO North Atlantic Treaty Organization
NAVFOR naval forces
NFA no-fire area
NIPRNET non-secure internet protocol router network
NLT not later than
nm nautical miles
NRT near real time
NSL no-strike list
NTTP Navy TTP
NWP naval warfare publication

O

OAF Operation ALLIED FORCE
OEF Operation ENDURING FREEDOM
OGA other government agencies
OIF Operation IRAQI FREEDOM

P

PC personal computer
PGM precision-guided munition
PID positive identification
POC point of contact

R

REL releasable
RFA restricted fire area
RFI request for information
ROE rule(s) of engagement
ROZ restricted operations zone
RPTS Rapid Precision Targeting System
RTL restricted target list

S

SA situational awareness
SADL situation awareness data link
SAM surface-to-air missile
SAR synthetic aperture radar
SATCOM satellite communications
SCDL surveillance and control data link
SCIF sensitive compartmented information facility
SEAD suppression of enemy air defense(s)

SEAL	sea, air, land (force)
SECDEF	Secretary of Defense
SIDO	senior intelligence duty officer
SIGINT	signals intelligence
SINCGARS	Single Channel Ground Airborne Radio System
SIPRNET	Secure Internet Protocol Router Network
SJA	Staff Judge Advocate
SMC	subordinate maritime commander
SODO	senior operations duty officer
SOF	special operation forces
SOLE	special operations liaison element
SOP	standing operating procedure
SPC	strike planning cell
SPINS	special instructions
STC	surface track coordinator
STE	secure terminal equipment
STU	secure telephone unit
STWC	strike warfare commander
SWO	senior watch officer
T	
TACC	tactical air command center
TACON	tactical control
TADIL	Tactical Digital Information Link
TADIL-J	Tactical Digital Information Link-Joint
TAI	target areas of interest
TBM	theater ballistic missile
TBMCS	Theater Battle Management Core System
TCE	TST coordination element
TDL	tactical data link
TDN	target data nominator
TF	task force
TIBS	tactical information broadcast system
TJTF	Time Critical Target Functionality
TLAM	US Navy Tomahawk Land Attack Missile
TLE	target location error
TOT	time on target
TOC	tactical operations center
TRIXS	Tactical Reconnaissance Intelligence eXchange Service
TST	time-sensitive target

TTP	tactics, techniques, and procedures
U	
UAV	unmanned aerial vehicle
UHF	ultra-high frequency
USA	United States Army
USAF	United States Air Force
USJFCOM	United States Joint Forces Command
USMC	United States Marine Corps
USN	United States Navy
UTM	universal transverse mercator
UK	United Kingdom
V	
VHF	very high frequency
VOIP	voice over internet protocol
VPN	voice product net
W	
WMD	weapons of mass destruction
WTP	weapon-target pairing

PART II—TERMS AND DEFINITIONS

- bullseye** - An established reference point from which the position of an object can be referenced. (JP 1-02)
- collateral damage** - Unintentional or incidental injury or damage to persons or objects that would not be lawful military targets in the circumstances ruling at the time. Such damage is lawful so long as it is not excessive in light of the overall military advantage anticipated from the attack. (JP 3-60)
- combat assessment** - The determination of the overall effectiveness of force employment during military operations. Combat assessment is composed of three major components: (a) battle damage assessment; (b) munitions effectiveness assessment; and (c) reattack recommendation. Also called CA. (JP 3-60)
- combined** - Between two or more forces or agencies of two or more allies. When all allies or Services are not involved, the participating nations and Services shall be identified, e.g., combined navies. See also joint. (JP 1-02)
- desired mean point of impact** - A precise point, associated with a target, and assigned as the center for impact of multiple weapons or area munitions to achieve the intended objective and level of destruction. May be defined descriptively, by grid reference, or by geolocation. Also called DMPI. (JP 3-60)
- fix** - A position determined from terrestrial, electronic, or astronomical data. (JP 1-02)
- geospatial intelligence** - The exploitation and analysis of imagery and geospatial information to describe, assess and visually depict physical features and geographically reference activities on earth. Also called GEOINT.
- high-payoff target** - A target whose loss to the enemy will significantly contribute to the success of the friendly course of action. High-payoff targets are those high-value targets that must be acquired and successfully attacked for the success of the friendly commander's mission. Also called HPT. See also high-value target; target. (JP 3-60)
- high-value target** - A target the enemy commander requires for the successful completion of the mission. The loss of high-value targets would be expected to degrade important enemy functions seriously throughout the friendly commander's area of interest. Also called HVT. See also high-payoff target; target. (JP 3-09)
- intelligence preparation of the battlespace** - An analytical methodology employed to reduce uncertainties concerning the enemy, environment, and terrain for all types of operations. Intelligence preparation of the battlespace builds an extensive database for each potential area in which a unit may be required to operate. The database is then analyzed in detail to determine the impact of the enemy, environment, and terrain on operations and presents it in graphic

form. Intelligence preparation of the battlespace is a continuing process. Also called IPB. (JP 2-0)

joint fires element - An optional staff element that provides recommendations to the operations directorate to accomplish fires planning and synchronization. Also called JFE. (JP 3-60)

joint integrated prioritized target list - A prioritized list of targets and associated data approved by the joint force commander or designated representative and maintained by a joint force. Targets and priorities are derived from the recommendations of components in conjunction with their proposed operations supporting the joint force commander's objectives and guidance. Also called JIPTL. (JP 3-60)

joint special operations air component commander - The commander within the joint force special operations command responsible for planning and executing joint special air operations and for coordinating and deconflicting such operations with conventional nonspecial operations air activities. The joint special operations air component commander normally will be the commander with the preponderance of assets and/or greatest ability to plan, coordinate, allocate, task, control, and support the assigned joint special operations aviation assets. The joint special operations air component commander may be directly subordinate to the joint force special operations component commander or to any nonspecial operations component or joint force commander as directed. Also called JSOACC. (JP 3-05.3)

joint special operations task force - A joint task force composed of special operations units from more than one Service, formed to carry out a specific special operation or prosecute special operations in support of a theater campaign or other operations. The joint special operations task force may have conventional non-special operations units assigned or attached to support the conduct of specific missions. Also called JSOTF. (JP 3-05)

kill box - A three-dimensional area reference that enables timely, effective coordination and control and facilitates rapid attacks. (JP 3-60)

no strike list - A list of geographic areas, complexes, or installations not planned for capture or destruction. Attacking these may violate the law of armed conflict or interfere with friendly relations with indigenous personnel or governments. Also called NSL. (JP 3-60)

reattack recommendation - An assessment, derived from the results of battle damage assessment and munitions effectiveness assessment, providing the commander systematic advice on reattack of targets and further target selection to achieve objectives. The reattack recommendation considers objective achievement, target, and aimpoint selection, attack timing, tactics, and weapon system and munitions selection. The reattack recommendation is a combined operations and intelligence function. Also called RR. (JP 3-60)

restricted target - A target that has specific restrictions imposed upon it. Actions that exceed specified restrictions are prohibited until coordinated and approved by the establishing headquarters. (JP 3-60.)

restricted target list - A list of restricted targets nominated by elements of the joint force and approved by the joint force commander. This list also includes restricted targets directed by higher authorities. Also called RTL. (JP 3-60.)

rules of engagement - Directives issued by competent military authority that delineate the circumstances and limitations under which United States forces will initiate and/or continue combat engagement with other forces encountered. Also called ROE. (JP 1-02)

supported commander - 1. The commander having primary responsibility for all aspects of a task assigned by the Joint Strategic Capabilities Plan or other joint operation planning authority. In the context of joint operation planning, this term refers to the commander who prepares operation plans or operation orders in response to requirements of the Chairman of the Joint Chiefs of Staff.

2. In the context of a support command relationship, the commander who receives assistance from another commander's force or capabilities, and who is responsible for ensuring that the supporting commander understands the assistance required. See also support; supporting commander. (JP 3-0)

supporting commander - 1. A commander who provides augmentation forces or other support to a supported commander or who develops a supporting plan. Includes the designated combatant commands and Defense agencies as appropriate.

2. In the context of a support command relationship, the commander who aids, protects, complements, or sustains another commander's force, and who is responsible for providing the assistance required by the supported commander. See also support; supported commander. (JP 3-0)

time-sensitive target - A target of such high priority to friendly forces that the JFC designates it as requiring immediate response because it poses (or will soon pose) a danger to friendly forces, or it is a highly lucrative, fleeting target of opportunity. (JP 3-60)

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AFTTP(I) 3-2.3**

20 April 2004

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