

STANDARD

**Multi-Service Tactics,
Techniques, and Procedures for
Kill Box Employment**

**KILL BOX FINAL
COORDINATION DRAFT**

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STANDARD

ARMY, MARINE CORPS, NAVY, AIR FORCE



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KILL BOX

***MULTI-SERVICE TACTICS,
TECHNIQUES, AND
PROCEDURES FOR
KILL BOX EMPLOYMENT***

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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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1 **PREFACE**

2 **1. Purpose**

3 This publication presents a doctrinal framework/MTTP for planning kill box procedures across
4 Service and/or functional components within a joint environment. A kill box is defined in JP 1-02 as: “A
5 three-dimensional area reference that enables timely, effective coordination and control and facilitates
6 rapid attacks.” Although a definition exists, there is no formal kill box doctrine or TTP. This MTTP
7 assists the Services and Joint Force Commanders (JFC) in developing, establishing, and executing kill
8 box procedures to allow rapid target engagement. This kill box MTTP describes timely, effective multi-
9 Service solutions to FSCMs, ACMs, and maneuver control measures with respect to kill box procedures.

10 **2. Scope**

11 This MTTP highlights kill box terminology, commonalities, presents known practices and includes
12 key lessons learned. It discusses multi-Service kill box planning, responsibilities, coordination, and
13 support. Specifically, this publication provides an overview of kill box procedures, methods of
14 employment, coordination/synchronization, and opening/closing procedures.

15 This MTTP is not authoritative in nature, however, it is consistent with joint doctrine, and provides
16 guiding principles that can help planners coordinate, deconflict, synchronize, and execute/implement kill
17 box procedures among the components assigned to a joint force. This publication covers planning and
18 execution at the tactical and lower operational level. This publication will not be used by one or more
19 Services, joint commands, other joint agencies, or other entities to obligate another Service in regards to
20 Doctrine, Organization, Training, Material, Leadership, Personnel and Facilities (DOTMLPF).

21 **3. Applicability**

22 This publication provides the JFC, the JFC operational staff, and Service components unclassified
23 MTTP to implement kill box procedures within any area of operations (AOR). The target audience
24 includes commanders as well as the operations (current operations, fires, and future plans) and
25 intelligence sections of Service components and their main subordinate elements (i.e. corps, Marine
26 expeditionary force (MEF), numbered fleet, wing,), and their counterparts on the JFC’s staff. This MTTP
27 can be used by the Services as a multi-Service training publication. This MTTP can be used by Services
28 conducting joint operations as part of a joint force, but each Service and JFC will ultimately decide the
29 range of applicability.

30 **4. Implementation Plan**

31 **Army.** Upon approval and authentication, this publication incorporates the procedures contained
32 herein into the US Army Doctrine and Training Literature Program as directed by the Commander, US
33 Army Training and Doctrine Command (TRADOC). Distribution is in accordance with applicable
34 directives and the Initial Distribution Number (IDN) listed on the authentication page.

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

39 **Navy.** The Navy will incorporate these procedures in US Navy training and doctrine publications as
40 directed by the Commander, Navy Warfare Development Command (NWDC)[I5]. Distribution is in

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1 accordance with Military Standard Requisition and Issue Procedure Desk Guide (MILSTRIP Desk Guide)
2 Navy Supplement Publication-409 (NAVSUP P-409) and NTTP 1-01, The Navy Warfare Library.

3 **Air Force.** The Air Force will incorporate the procedures in this publication in accordance with
4 applicable governing directives. Distribution is in accordance with Air Force Instruction (AFI) 33-360.

5 **5. User Information**

6 a. TRADOC; MCCDC; NWDC; Headquarters, Air Force Doctrine Center (HQ AFDC); and the Air
7 Land Sea Application (ALSA) Center developed this publication with the joint participation of the
8 approving Service commands. ALSA will review and update this publication as necessary.

9 b. This publication reflects current joint and Service doctrine, command and control (C2)
10 organizations, facilities, personnel, responsibilities, and procedures. Changes in Service protocol,
11 appropriately reflected in joint and Service publications, will likewise be incorporated in revisions to this
12 document.

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

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KILL BOX
MULTI-SERVICE TACTICS, TECHNIQUES AND PROCEDURES
FOR KILL BOX EMPLOYMENT

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EXECUTIVE SUMMARY

KILL BOX

Multi-Service Tactics, Techniques, and Procedures for Kill Box Employment

Overview

Commanders and staffs must understand the elements and use of kill boxes in order to plan, develop, and employ them effectively in support of the joint force commander’s requirements. This publication offers a detailed explanation of kill box process and provides information to effectively organize, plan, and execute kill box procedures in a combined and joint environment. This document:

- Combines lessons learned and best practices from Operations ENDURING FREEDOM, IRAQI FREEDOM and recent exercises.
- Provides basic background information on kill boxes.
- Outlines factors impacting the planning of kill boxes.
- Describes procedures and factors impacting the execution of kill boxes.
- Provides examples and scenarios involving kill box establishment and operations to better illustrate the concepts and employment of kill boxes.

Overview of Kill Box Concept

Chapter I defines what a kill box is, and briefly describes the purpose, employment of, and overarching considerations concerning kill boxes. It provides a graphic portrayal of the concepts and defines unique kill box terms used in the document.

Kill Box Planning and Development Considerations

Chapter II provides an overview of the various planning and coordinating considerations. It also describes the process of establishing kill boxes and describes the characteristics of the two different types of kill boxes. The blue kill box which permits air-to-surface fires, and the purple kill box which permits integration of surface-to-surface fires with air-to-surface.

Note: Some terms used in this MTTP not in accordance with published joint doctrine. However, the described terms are consistent with the intent of existing joint doctrine.

Kill Box Execution

Chapter III describes factors and procedures (such as coordination) involved in conducting kill box operations.

Appendices

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1 The appendices provide additional detailed information relevant to kill box operations. These
2 include:

- 3 • Kill Box Request Matrix.
- 4 • Component Kill Box Coordination Examples.
- 5 • JFSOCC C2 for Kill Box Operations
- 6 • Theater-Specific Kill Box Procedures.
- 7 • Common Geographic Reference System (CGRS) description, set-up procedures,
8 implementation, and uses.

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Chapter I

OVERVIEW OF KILL BOX CONCEPT

1. Definition and Purpose

a. Definition: A kill box is a three-dimensional fire support coordinating measure (FSCM) used to facilitate the expeditious air-to-surface lethal attack of targets, which may be augmented by or integrated with surface-to-surface fires.

b. Purpose: When established, the primary purpose of a kill box is to allow air assets to conduct interdiction against surface targets without further coordination with the establishing commander and without terminal attack control. A kill box will not be established specifically for close air support (CAS) missions. However, this does not restrict CAS missions inside of established kill boxes if all CAS requirements are met. When used to integrate air-to-surface and surface-to-surface fires, the kill box will have appropriate restrictions.

2. Establishment

A kill box is established and adjusted by the appropriate supported commander and is an extension of an existing support relationship established by the Joint Force Commander (JFC). Kill box boundaries normally are defined using an area reference system (e.g., common geographic reference system [CGRS], Appendix E), but could follow well defined terrain features or may be located by grid coordinates or by a radius from a center point. Changes to a kill box require notification of all affected forces within the joint operations area (JOA) and must allow sufficient time for these forces and/or components to incorporate the kill box change. Types of kill boxes are discussed below:

a. **Blue Kill Box.** A blue kill box permits air-to-surface fires effects in the kill box without further coordination or deconfliction.

b. **Purple Kill Box.** A purple kill box permits the integration of surface-to-surface fires with air-to-surface fires into the purple kill box without further coordination

c. **Kill Box Terminology.**

(1) **Established.** A kill box that is in effect. Information about the time it becomes established, the duration, or other attributes will be published and disseminated using existing voice and digital command and control (C2) systems such as: Advanced Field Artillery Tactical Data System (AFATDS), theater battle management core system (TBMCS), or fragmentary order (FRAGO) from the establishing headquarters.

(a) **Open.** Term used to describe a portion or portions of a kill box that is open to fires.

(b) **Closed.** Term used to describe a portion or portions of an established kill box in which fires or effects of fires are not allowed without further coordination

(c) **Active.** An established kill box that has aircraft flying in the space defined by the box or effects of air or other joint fires within the boundaries of the kill box.

(d) **Cold.** An established kill box that is not active. All portions of the kill box are open to fires unless identified as closed.

- 1 (2) **Cancelled.** The kill box is no longer in effect.
- 2 (3) **Area Reference System.** An area reference system is primarily an operational-level
- 3 administrative measure used to coordinate geographical areas rapidly for battlespace deconfliction
- 4 and synchronization. This reference system provides a common language between the components
- 5 and simplifies communications. (CGRS, Appendix E and JP 3-60, Appendix D)

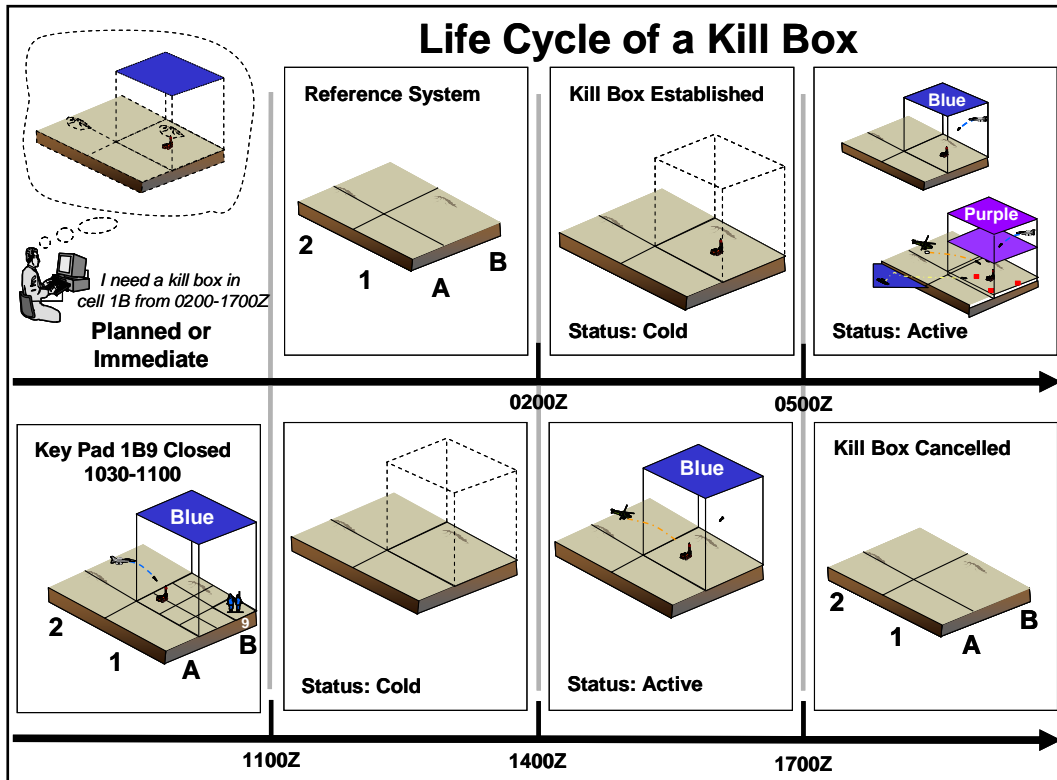


Figure I-1. Life Cycle of a Kill Box

- 7 d. **Kill Box Deconfliction and Coordination.** The first forward air controller (airborne)
- 8 [FAC(A)], strike coordination and reconnaissance (SCAR), rescue mission coordinator (RMC),
- 9 mission commander, or flight lead on station is responsible for deconfliction and coordination if
- 10 required.
- 11 e. **Linear Battlespace.** Kill boxes can augment use of traditional FSCMs, such as fire support
- 12 coordination line (FSCL), coordinated fire line (CFL), and battlefield coordination line (BCL). They
- 13 can help the commander focus the effort of air and indirect fire assets.
- 14 f. **Non-linear Battlespace.** When traditional FSCMs are not useful or are less applicable, the
- 15 kill box can be another method for identifying areas to focus air and indirect fire assets.

3. Employment

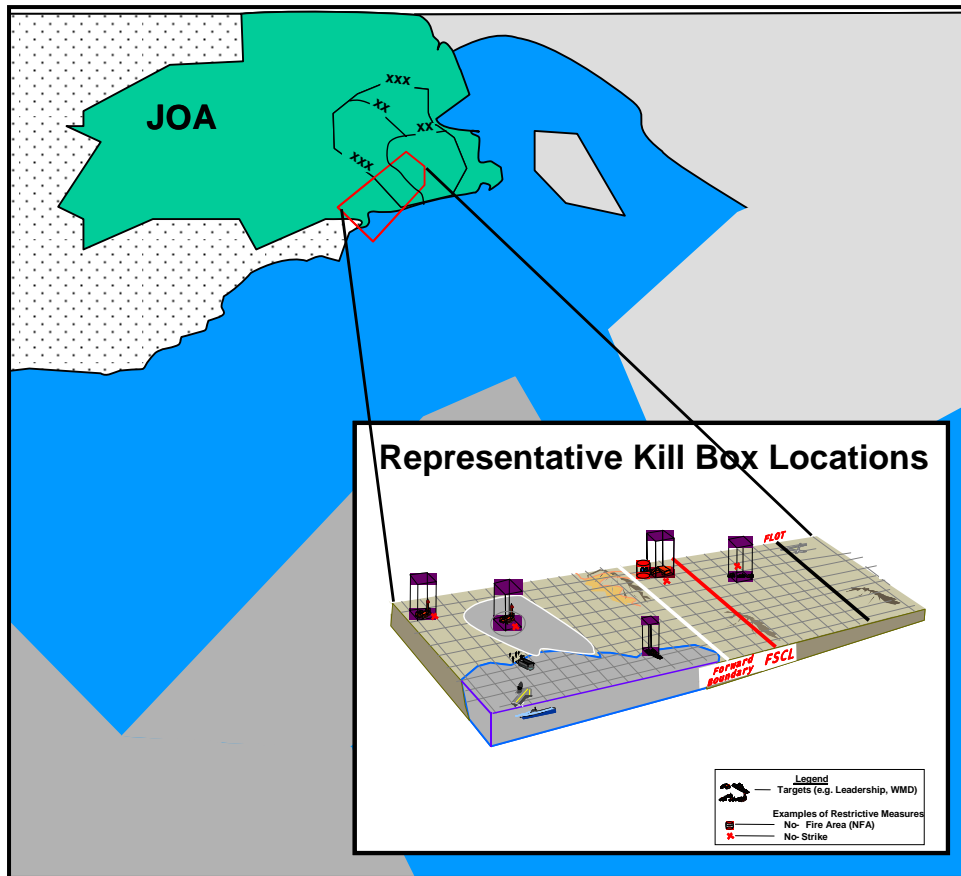
18 Kill boxes are normally used when a support relationship already exists between two or more

19 functional or service components. The goal is to reduce the coordination required to fulfill support

20 requirements with maximum flexibility, while preventing fratricide.

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- 1 a. Kill boxes support the commander’s objectives and desired effects. As such all target
- 2 engagements within them should adhere to the supported commander’s established priorities, desired
- 3 effects, and timing of fires.
- 4 b. Use of kill boxes is not mandatory.
- 5 c. Command and control updates on kill boxes will be accomplished (e.g., altitude restrictions,
- 6 frequency use, established control measures within the kill box) via appropriate C2 systems. With
- 7 appropriate restrictions, surface-to-surface fires may occur simultaneously with air-to-surface strikes.



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Figure I-2. Kill Box Battlespace

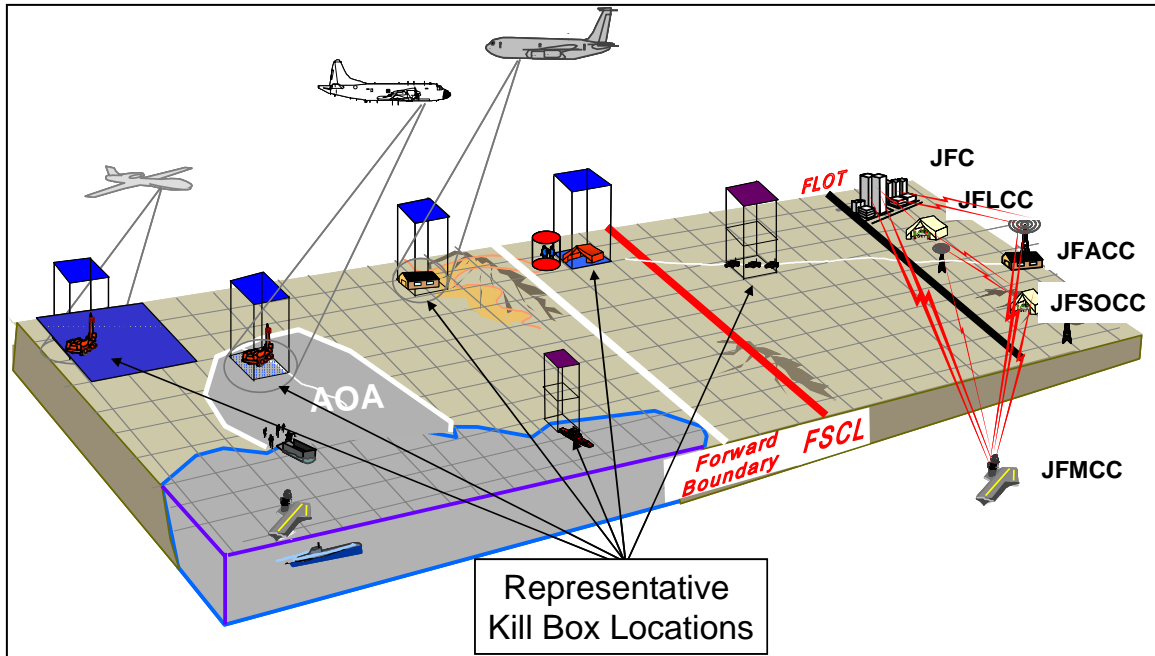


Figure I-3. Kill Box Locations

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4. Considerations

a. It is important to note that a kill box is an FSCM and is **not** a reference system. Kill box boundaries are normally defined using an area reference system which provides the construct (a two-dimensional system) and a kill box (a three-dimensional system) is the application.

b. Applicable rules of engagement (ROE), collateral damage (CD) guidance and restrictions, positive identification (PID), and the special instructions (SPINS) must still be followed in a kill box.

c. The decision to use a kill box requires careful consideration by the JFC or the supported commander. If used, its size, location, and timing are based on estimates of the situation and concept of operations. Disposition of enemy forces, friendly forces, anticipated rates of movement, concept and tempo of the operation, surface-to-surface weapon capabilities, and other factors must be considered by the commander.

d. A kill box is a unique FSCM that may contain other measures within its boundaries [e.g., no-fire areas (NFAs), restricted operating zones (ROZs), airspace coordination areas (ACAs), etc.].

e. Integration of air-to-surface and surface-to-surface fires requires application of appropriate restrictions: altitude, time separation, or lateral separation. The supported commander will determine which of these is appropriate for the mission and ensure dissemination through the appropriate C2 nodes.

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Chapter II

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KILL BOX PLANNING AND DEVELOPMENT CONSIDERATIONS

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1. General

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a. The JFC establishes detailed procedures and concept of operations for successful kill box employment within the JOA by promulgating guidance and priorities. Additionally, the JFC designates the establishing authority for kill boxes (usually, the component commander). Component commanders may delegate authority for establishing kill boxes. The establishing authority is responsible for coordinating with and notifying all affected forces.

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b. An area reference system facilitates the structural and procedural requirements for using kill boxes but is not an absolute requirement.

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c. Kill box procedures will not be ideal for every situation. Considerations of mission, enemy, terrain and weather, troops and support available-time available/civil considerations (METT-T/C) and requirements for terminal attack control may determine that other procedures would be more effective.

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2. Planning Considerations

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a. Establishing a kill box requires careful planning and coordination. This section outlines some of the considerations for successful planning.

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b. Kill boxes can be applied to different portions of the battlespace, including rear areas, to facilitate expeditious target engagement. Also, the kill box is an applicable tool where traditional coordination measures (e.g., FSCL) do not exist or have not been established.

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c. The component commanders must be able to communicate kill box status in a timely manner. This will ensure systems and organization databases are updated. The architecture and means by which this information is disseminated should be identified early in the planning process. It must accommodate planned and immediate kill boxes. Communications methods may include joint and multinational digital and voice systems. Units responsible for input of kill box status must be identified; as well as, primary and secondary systems over which the information will be passed to ensure timely dissemination of kill box status.

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d. Planning Considerations.

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(1) Commander's guidance and intent.

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(2) Targeting priorities.

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(3) Intelligence preparation of the battlespace (IPB).

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(4) Location of other FSCMs and airspace control measures (ACMs).

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(5) Concept of operations and scheme of maneuver (kill boxes should not impede or adversely impact the scheme of maneuver). Kill boxes are intended to optimize available air assets in conjunction with the commander's concept of operation.

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(6) Friendly locations and capabilities including special operations and other government agencies.

38

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1 (a) Kill boxes should be clear of all friendly forces. In cases when this is not possible,
2 appropriate restrictive measures must be established.

3 (b) Consider the impact on surface-to-surface fires ranges and trajectories.

4 (c) Surface-to-air fires responsiveness could be reduced due to additional coordination
5 requirements.

6 (d) Weapons release may occur outside the confines of the kill box where effects are
7 intended.

8 (7) Communication. What frequencies to use must be considered in the development of the
9 communications plan. Ideally there will be a frequency associated with a specific kill box. This will
10 enable the assets entering the kill box to have a common frequency for coordination. As the number
11 of kill boxes established increases the available number of frequencies decreases and reduces
12 flexibility.

13 (8) ROE. The nature of target engagement within a kill box may not be the same as for other
14 areas of the battlespace. Planners at the joint and component level must determine if the current ROE
15 is appropriate or unduly restricts kill box operations and request appropriate ROE adjustments as
16 required.

17 (9) Restrictions. Planners developing kill boxes must be aware that there are many
18 constraints and restrictions that may impact how operations are executed within the kill box. Such
19 restrictions could include requirements regarding collateral damage, positive identification, restricted
20 target list (RTL), no-strike list (NSL), and SPINS.

21 22 **3. Kill Box Development**

23 a. Kill boxes are tools for coordinating fires, but they are not the only tools. Commanders retain
24 their full range of FSCMs and ACMs at their disposal to manage the battlespace.

25 (1) **Planned Kill Box.** A planned kill box is developed during the planning process, and/or
26 the joint targeting cycle by a supported commander. Fire support planners must ensure dissemination
27 of all planned FSCMs including kill box attributes, are included in the airspace control order (ACO)
28 or SPINS. Widest dissemination of the plan will enable greater understanding of the scheme of
29 maneuver. A kill box can be planned in a targeted area of interest (TAI) where a commander might
30 expect the requirement for a specified time period. Air assets should be assigned to planned kill
31 boxes in the ATO. TBMCS does not allow tasking air assets to FSCMs or multiple airspaces. Assets
32 will be directed to a specific point or air space (e.g. target or ROZ). Specific instructions for planned
33 kill boxes will be disseminated via individual mission amplification (MSN APMN) field in the ATO
34 or in the SPINS. Procedures for each theatre may vary.

35 (2) **Immediate Kill Box.** An immediate kill box is developed during the execution of an
36 operation. If the supported commander needs to establish a kill box that cannot be promulgated
37 through planning documents he/she calls their liaison element such as a battlefield coordination
38 detachment (BCD) or goes through the direct air support center (DASC)/air support operations center
39 (ASOC) to inform the joint air operations center (JAOC) that an FSCM was created and the time it
40 will be active. C2 systems must be updated to reflect the new FSCM.

41 b. While kill boxes are permissive FSCMs with respect to the deliverance of air-to-surface
42 weapons they are also restrictive in nature. Trajectories and effects of surface-to-surface fires are not
43 normally allowed to pass through the kill box. Also air-to-surface munitions (and their trajectories)
44 delivered by aircraft not assigned to the kill box are not permitted to pass through the kill box unless

1 coordinated. All aircraft not assigned to operate within a kill box are restricted from flying through a
2 kill box without permission of the designated controlling authority.

3 c. Restrictive FSCMs and ACMs will always have priority when established in a kill box. For
4 example, aircraft cannot drop on an established NFA and must abide by the confines of an ACA.
5 However, a kill box may take priority over permissive FSCMs. For example, a FSCL that crosses an
6 established kill box does not close that kill box.

7 d. Engagement authority is automatically granted by the establishment of a kill box but does not
8 relieve the aircrew of the responsibility for complying with requirements such as commander's
9 designated target priority, PID, CD, ROE, and SPINS.

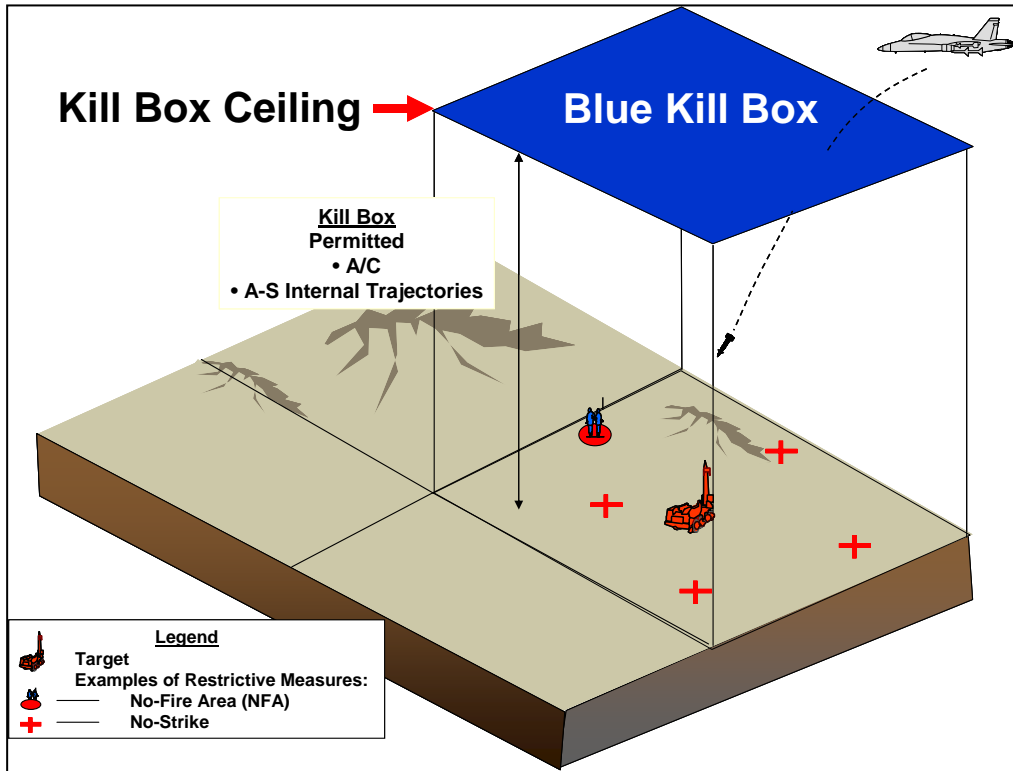
10 **4. Blue Kill Box**

12 a. A blue kill box permits air-to-surface fires effects in the kill box without further coordination
13 or deconfliction (See Figure II-1). If the kill box is active, air-to-surface munitions (and their
14 trajectories) delivered by aircraft not assigned to the blue kill box need to be coordinated. All aircraft
15 not assigned to an active blue kill box are restricted from flying through it unless coordinated with the
16 kill box coordinator (KBC). The airspace included by a blue kill box extends from the surface up to
17 the limit established by the ACA.

18 Note: Ordnance may be delivered outside the airspace defined by the kill box to include stand-off
19 surface-to-surface and air-to-surface weapons (See Figures II-1 and II-2).

20 b. A blue kill box minimizes the restrictions on air-to-surface fires, while also protecting
21 aircraft. Effects and trajectories of surface-to-surface fires are not allowed to pass through the blue
22 kill box. Land and naval force commanders must coordinate with the air component to deliver
23 surface-to-surface fires into or through an established blue kill box.

1



2

Figure II-1. Notional Blue Kill Box

3 **5. Purple Kill Box**

4 a. **Permits Integration of Fires.** A purple kill box permits the integration of surface-to-surface
 5 fires with air-to-surface fires into the purple kill box without further coordination (Figure II-2). Air-
 6 to-surface and surface-to-surface fires can be deconflicted by altitude, lateral, or time separation. The
 7 establishing headquarters will coordinate with the air component to define the appropriate
 8 deconfliction technique for operations within the purple kill box. All aircraft not assigned to an active
 9 purple kill box are restricted from flying through it unless coordinated. Also air-to-surface munitions
 10 (and their trajectories) delivered by aircraft not assigned to the kill box will not violate the purple kill
 11 box unless coordinated. Ground units are required to obtain clearance from the air component for any
 12 surface-to-surface fires whose trajectories will violate the altitude, lateral, or time restrictions.

13 b. **Primary Purpose.** The primary purpose of a purple kill box is to reduce the coordination
 14 requirements for air-to-surface fires, while still allowing ground commanders to employ surface-to-
 15 surface fires. The purple kill box allows the maximum use of joint fires in the kill box creating a
 16 synergistic effect and maximum potential for engaging targets.

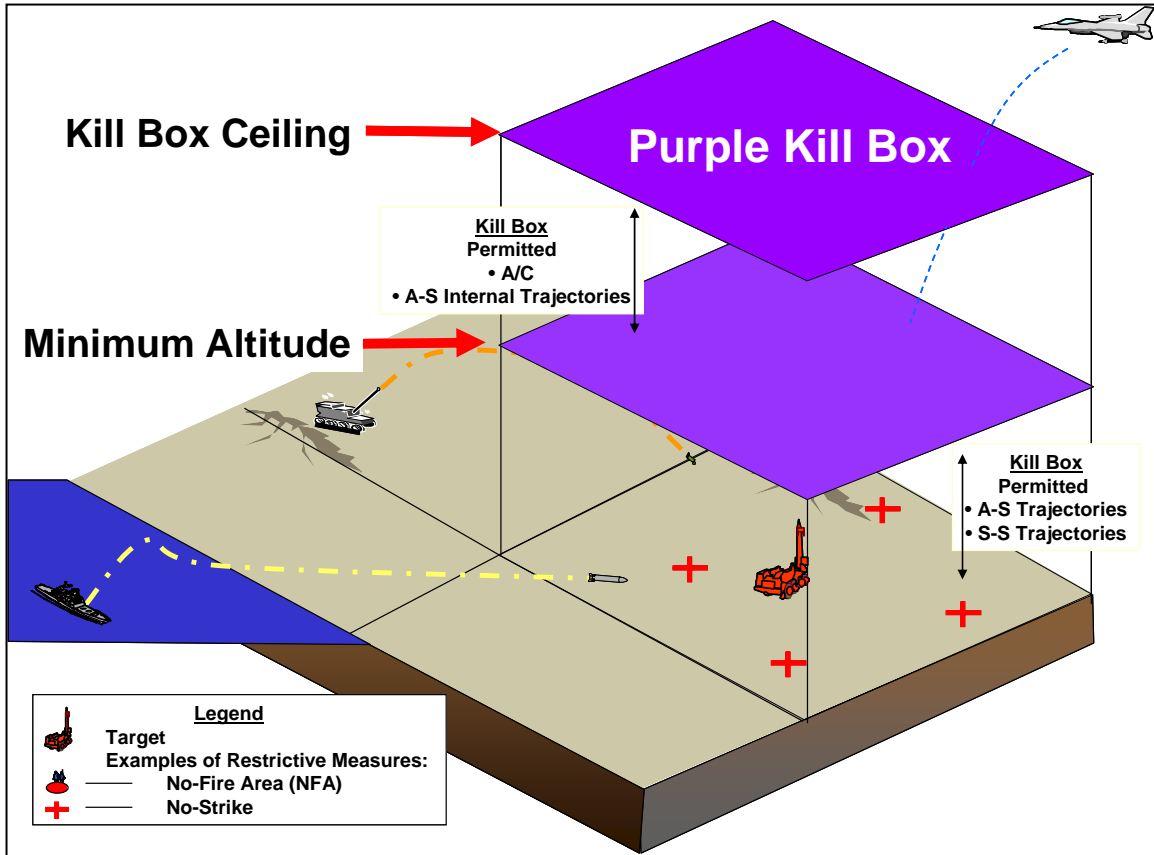
17 c. **Deconfliction Techniques**

18 (1) **Lateral Separation.** Lateral separation is effective for coordinating fires against targets
 19 that are adequately separated from flight routes to ensure aircraft protection from the effects of
 20 friendly fires.

21 (2) **Altitude Separation.** Altitude separation is effective for coordinating fires when aircrews
 22 will remain above or below indirect fire trajectories and their effects.

1 (3) **Altitude and Lateral Separation.** Altitude and lateral separation is the most restrictive
 2 technique for aircrews and may be required when aircraft must cross the firing unit's gun-target
 3 line.

4 (4) **Time Separation.** Time separation requires the most detailed coordination and may be
 5 required when altitude restrictions from indirect fire trajectories (e.g. mortar trajectory)
 6 impact aircraft ordnance delivery.



7

Figure II-2. Notional Purple Kill Box

1 **6. Kill Box Responsibilities Matrix**

2 The following matrix (See Table II-1) describes the responsibilities inherent in employment of
 3 the types of kill boxes. This is a generic table that assumes that components are the establishing
 4 authority within a joint force.

Kill Box Responsibilities Matrix					
Type / Attributes	Establishing Authority (EA) ¹	Coordination Requirement	Critical Nodes	Mission	Other
BLUE KILL BOX - Outside AO(s) - Beyond FB	JFC or JFACC	JFACC: no additional coord required once established.	JAOC - Airspace Mgr - TST Cell - SODO - BCD	Air to Surface	ACM Air Deconfliction Clearance Inherent
		Other components: Must coordinate with JFACC.			
BLUE KILL BOX - Inside AO(s)	Supported Commnader	JFACC: no additional coord required once established except changes in target priorities, effects and timing.	JAOC - Airspace Mgr - TST Cell - SODO - BCD JFLCC - DOCC/FSE - ASOC/DASC	Air to Surface	ACM FSCM Air Deconfliction Clearance Inherent
		EA: must cancel, close or coord with JFACC before use.			
		Other components: Must coordinate with JFLCC and JFACC.			
PURPLE KILL BOX - Synchronized Fires	JFC or appropriate component Cdr	JFC and/or other Components	JOC/JFE - Other Components as required	Joint Fires - Altitude, lateral, or Time Separation	ACM FSCM Deconfliction Clearance as Required

¹ The establishing authority (EA) works in coordination with other Components as required before changing current battle space measures.

5 **Table II-1. Kill Box Responsibilities**

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Chapter III

KILL BOX EXECUTION

1. Execution of Kill Box Operations

Kill box execution begins with the establishment of a kill box by a supported commander. The nature of kill box operation execution is dependant on two factors: the method by which a kill box is established (either planned or immediate), and types of fires to be delivered (either joint surface-to-surface and air-to-surface fires or pure air-to-surface fires).

2. Establishment and Cancellation of a Kill Box

a. Kill box establishment and cancellation require detailed coordination and dissemination between supported and supporting commanders within the JOA. The establishment of planned or immediate kill boxes will use existing theater command, control, communications, and computer systems. During execution, communications nets between C2 and air assets providing air-to-surface fires will be clearly established and used to terminate operations in a timely manner if necessary.

b. The supported commander initiates the establishment of a kill box through their operational C2 organization. They will coordinate their action with the operation airspace control authority (ACA); who is typically, but not always, the joint force air component commander (JFACC). Coordination will include consultation with the JFACC's representatives on the impacts and details of the kill box. Example: The joint force land component commander (JFLCC) wants to establish a kill box in his/her operational area. Prior to establishing the kill box, the JFLCC will coordinate the impacts and details of the kill box with ASOC/joint air operations center (JAOC) via the fire support element (FSE).

1

KILL BOX REQUEST FORMAT	
Purpose:	_____
Geographic limits/kill box location:	_____
Effective times of establishment:	_____
	<ul style="list-style-type: none"> • Identify the date time group (DTG) the kill box is established • Identify the DTG or the desired effect that will cancel the kill box
Kill Box Type:	_____
	<i>(Identify whether it is blue or purple)</i>
Establishing Authority:	_____
	<i>(Identify the establishing authority)</i>
Supported Commander's Targeting Guidance:	_____
	<ul style="list-style-type: none"> • Priorities: List the targets • Effects: Identify the desired effects • Identify restrictions
Remarks:	_____
	<i>(Give any additional information needed)</i>

2

Figure III-1. Kill Box Request Format

3. Contingencies and Considerations

a. The kill box is designed to provide a solution to the requirement for coordination of lethal fires. However, non-lethal fires such as electronic attack may be employed to facilitate fires and provide synergy of prosecution of a given target across the entire operational spectrum of a given target. Every attempt should be made to bring to bear all capabilities against a given target set to ensure its efficient destruction.

b. Additionally, kill box operations in the vicinity of joint air defense assets can adversely affect the capabilities of the air defense system to operate as intended by the area air defense commander (AADC). Consult the air defense commander (ADC) prior to establishing a kill box in the vicinity of a joint air defense asset.

12

1 **4. Coordinating Active Kill Box Operations**

2 Kill box coordination is required when multiple flights or formations are operating within or
3 providing air-to-surface fires within the same kill box. This coordination may be as simple as
4 deconflicting two flights or as complex as performing SCAR. At a minimum, this coordination must
5 deconflict flight paths and weapons deliveries.

6 a. The functions associated with kill box coordination should not be confused with those of the
7 FAC(A). FAC(A)s are a direct extension of a tactical air control party (TACP) and specifically
8 facilitate the conduct of CAS. Flights providing kill box coordination will not normally provide
9 terminal attack control for kill box operations. However, rapidly changing circumstances could
10 require FAC(A)s to provide terminal attack control for CAS missions. In this case, the kill box or
11 portions thereof will be closed and CAS procedures will be used.

12 b. Unless previously coordinated, the first flight to enter a given kill box will be responsible for
13 providing the required kill box coordination. As the complexity of the kill box environment begins to
14 exceed airframe capability or the flight's training or comfort level, that flight should seek to pass the
15 responsibility for providing kill box coordination to a more qualified flight. FAC(A)s or SCAR-
16 trained flights are ideally suited and prepared to provide all of the capabilities described above. If no
17 FAC(A), SCAR, RMC, or mission commander is available, the most qualified flight lead will become
18 the KBC and will only be responsible for kill box deconfliction.

19 c. Once positive deconfliction has been established, kill box coordination may include some or
20 all of the following:

- 21 (1) Expeditiously flowing interdiction aircraft into and out of the target area.
- 22 (2) Attempting to match weapons with targets and targeting priorities.
- 23 (3) Preventing redundant strikes against targets previously destroyed.
- 24 (4) Providing targeting information, to include accurate coordinates and PID.
- 25 (5) Providing target marks.
- 26 (6) Supporting laser-guided weapons.
- 27 (7) Confirming or locating surface-to-air threats.
- 28 (8) Providing battle damage assessment (BDA)/bomb hit assessment (BHA).

29
30 **5. Command, Control, and Communications/Kill Box Operations**

31 **Radio Procedures.** Flights will check in with C2 agencies in accordance with (IAW) theater
32 SPINS. Once authorized to proceed towards a given kill box, flights must check in with the agency
33 or flight providing kill box coordination prior to entering that kill box. Recommended check-in and
34 briefing formats are provided below. The applicable information from each format should be passed.
35 At a minimum, the C2 agency will pass kill box location, status, coordinator and frequency, friendlies
36 and threats.

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a. C2 agency Check-in Standard IAW Theater SPINS. As time and conditions permit, amplifying information may be passed including some or all of the following (Figure III-2).

COMMAND & CONTROL (C2) AGENCY BRIEFING Information passed from C2 Agency to Aircraft	
Aircraft: “ _____, this is _____ ”	
(C2 Agency Call Sign)	(Aircraft Call Sign)
Targets: “ _____ ”	
(priorities, targets being worked, restricted targets, etc.)	
Threats: “ _____ ”	
Friendlies: “ _____ ”	
(all applicable air and ground assets in vicinity of kill box)	
Fires Integration: “ _____ ”	
Coordinator: “ _____ ”	
(call sign and net)	
Ordnance Restrictions or Requests: “ _____ ”	
Remarks: “ _____ ”	
Example:	
“Kmart 00, Razor 22 checking in as fraged.”	
“Razor 22, this is Kmart 00, proceed to 7F and contact Badger 11 on TAD-2, multiple aircraft on station, possible SA-8 keypad 5.”	

5

Figure III-2. Command and Control (C2) Agency Briefing

1

2 b. Kill Box Check-in Briefing (figure III-3)

KILL BOX CHECK-IN BRIEFING Passed to Kill Box Coordinator (KBC) Before Entering	
Aircraft: “ _____, this is _____ ”	
<i>(KBC Call Sign)</i>	<i>(Aircraft Call Sign)</i>
Call Sign/Mission Number: “ _____ ”	
Number and Type of Aircraft: “ _____ ”	
Position and Altitude: “ _____ ”	
Ordnance: “ _____ ”	
<i>(laser codes as applicable)</i>	
Time on Station: “ _____ ”	
Additional Aircraft/Aircrew Capabilities: “ _____ ”	
Remarks: “ _____ ”	
Example: “Badger 11, this is Razor 22, mission #3601, flight of 2 x AV-8s, 50NM south angels 26, 3 GBU-12s and Litening, 20 minutes playtime.”	

3

Figure III-3. Kill Box Check-In Briefing

1

2 c. KBC to Fighter Brief/Check-In (figure III-4)

KBC TO FIGHTER BRIEF/CHECK-IN Passed from KBC	
Aircraft: “ _____, this is _____ ”	
(Aircraft Call Sign)	(KBC Call Sign)
Deconfliction Plan: “ _____ ”	
Threats: “ _____ ”	
Kill Box Status and Restrictions: “ _____ ”	
Friendlies: “ _____ ”	
(all applicable air and ground assets in kill box)	
Remarks: “ _____ ”	
Example:	
“Razor 22, this is Badger 11, descend to angels20, proceed to keypad 9, be advised Ripper 33, established angels 18, keypads 1, 2, and 3. Badger 11 angels 25, possible SA-8 7F5, advise when ready to copy attack brief.”	

3

Figure III-4. KBC to Fighter Brief/Check-In

1

2 d. Kill Box Attack Brief (figure III-5)

KILL BOX ATTACK BRIEF KBC to Striker Aircraft
Aircraft: “ _____, this is _____ ” <i>(KBC Call Sign) (Strike Aircraft Call Sign)</i>
Target Description: “ _____ ”
Target Location: “ _____ ” <i>(coordinates, geo refs, etc.)</i>
Target Elevation: “ _____ ”
Remarks: “ _____ ” <i>(buddy-lase plan, mark, time-on-target (TOT), deconfliction, etc.)</i>
<p>NOTE: Once established in the kill box with flight and weapon deconfliction assured, authorization to engage targets is assumed once the following measures have been satisfied by the flight:</p> <ul style="list-style-type: none"> • PID • FSCMs Restrictions • Collateral Damage Estimates (CDE) • No-strike Lists/Restricted Target List • ROE/SPINS
<p>Example:</p> <p>“Razor 22 Ready to copy.”</p> <p>“Column of 4 APCs oriented north to south with dismounted infantry, location N3701.034 / W07601.089, elevation 69’, remain in 7F keypad 9, contact Badger 11 once complete.”</p>

3

Figure III-5. Kill Box Attack Brief

4 e. Departing KBCs will execute a positive handoff to the appropriate flight, if applicable, and
 5 notify C2. If no flights are available, the KBC will execute a positive handoff with C2.

1

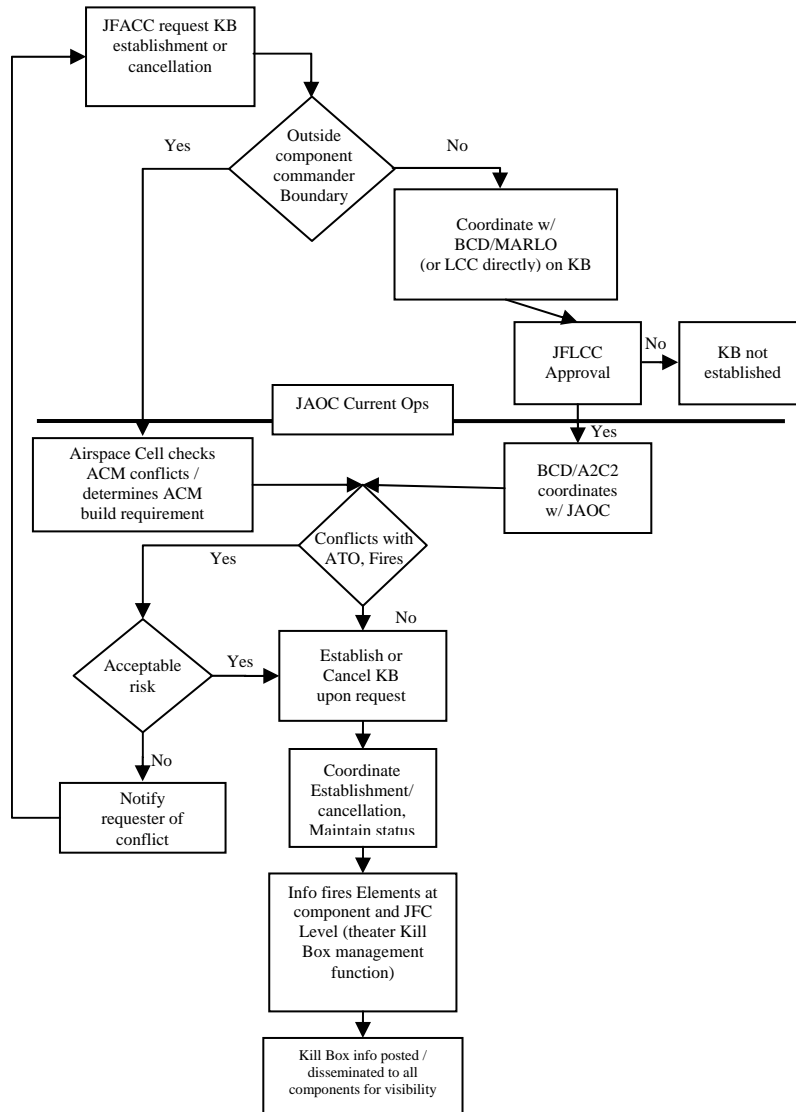
Appendix A

2

KILL BOX REQUEST MATRIX

3 1. Joint Force Air Component Commander (JFACC) Requesting Immediate

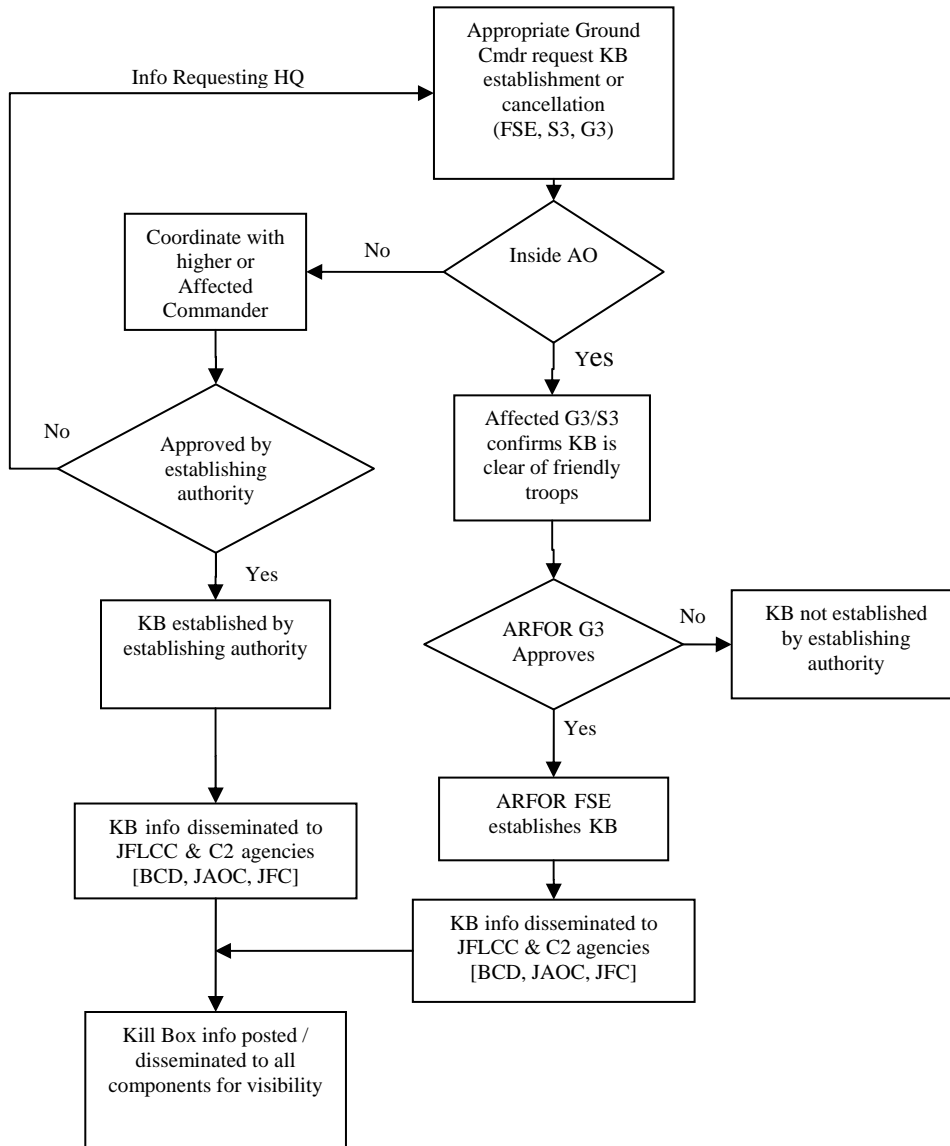
4 Kill Box



5

Figure A-1. JFACC Requesting Immediate Kill Box Decision Flow Chart

1 **2. Army Maneuver Unit Requesting Immediate Kill Box**



2 **Figure A-2. Army Maneuver Unit Requesting Immediate Kill Box Decision Flow Chart**

3 The Army maneuver unit requesting an immediate kill box decision flow chart is a tool to be used
 4 by the staff to expedite the establishment of an immediate kill box. Prior to being used, the flow chart
 5 should be adjusted to reflect the current situation. If used correctly, the flow chart will provide the
 6 staff an overview of the decisions to be made and the coordination required to open an immediate kill
 7 box.

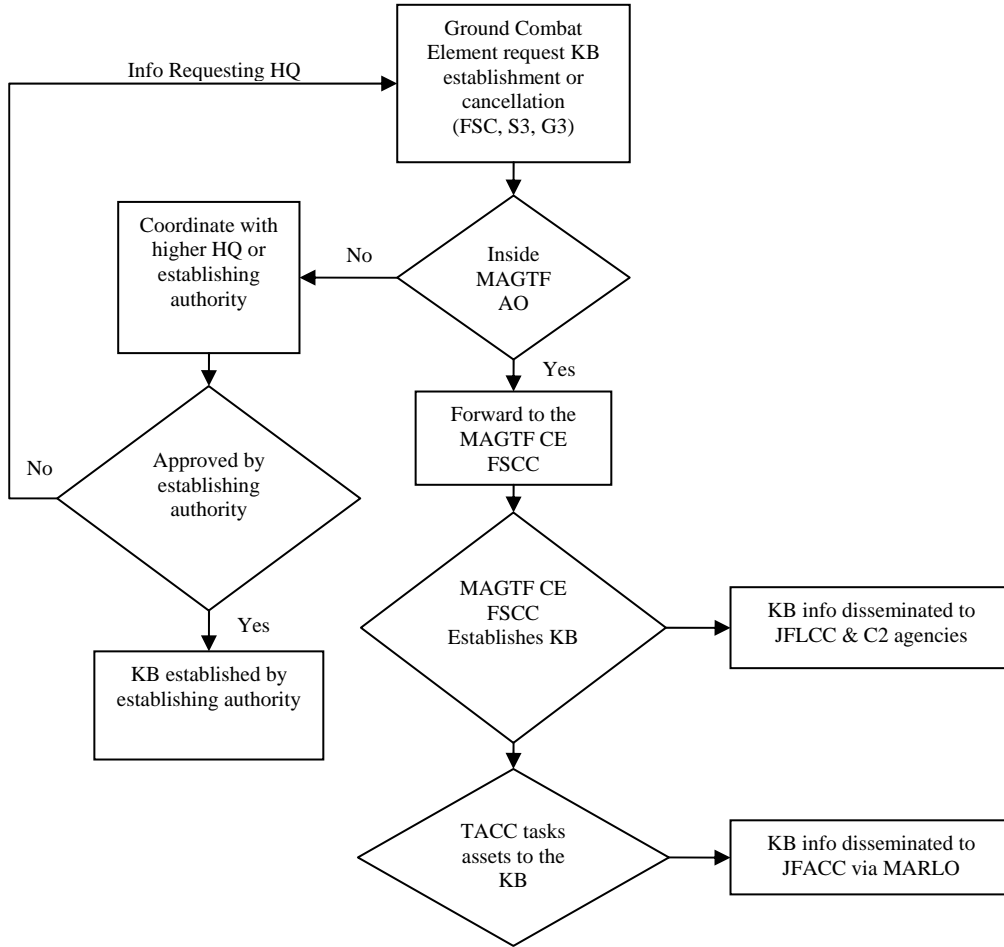
- 8 a. The fire support coordinator (FSCOORD) in consultation with the G3/S3 and air liaison
- 9 officer (ALO) recommend that a kill box be established.

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- 1 b. Is the kill box in your unit's AO – Yes?
- 2 (1) Can G3/S3 confirm that there are no friendly within the area of the kill box?
- 3 (a) If yes, the kill box recommendation goes forward.
- 4 (b) If no, the G3/S3 and the FSCOORD must make recommendations for additional
- 5 FSCMs to protect those troops.
- 6 (2) Can the air defense artillery (ADA) LNO confirm that the kill box will have no adverse
- 7 impact on the ADA's ability to protect the force?
- 8 (a) If yes, the kill box recommendation goes forward.
- 9 (b) If no, the ADA LNO must provide a risk assessment to the commander.
- 10 (3) Can the ALO/TACP ensure that the kill box establishment will not adversely effect air
- 11 operations in support of the maneuver force or JFLCC operations?
- 12 (a) If yes, the kill box recommendation goes forward.
- 13 (b) If no, the ALO LNO must provide a risk assessment to the commander along with
- 14 his recommendations.
- 15 (4) Weighing all the information and recommendations the maneuver commander makes his
- 16 decision on establishing the kill box.
- 17 (a) If yes, the kill box information is sent by the FSE to the Army forces (ARFOR)
- 18 FSE.
- 19 (b) If no, the kill box is not established.
- 20 c. Is the kill box in you unit's AO – No?
- 21 (1) The FSE coordinates with the commander of the AO where the kill box is to be located
- 22 and recommends that a kill box be established. Provides all the information concerning the
- 23 establishment of the kill box.
- 24 (2) The staff of the affected commander performs steps in b.(1), (2) and (3).
- 25 d. Does the affected component commander approve the establishment of a kill box in his AO?
- 26 (1) If yes, the kill box information is sent by the FSE to the ARFOR FSE.
- 27 (2) If no, the kill box is not established.
- 28 e. Can the ARFOR clear the kill box for all friendly forces, e.g. SOF, OGA, etc.
- 29 (1) If yes, the kill box information is disseminated to all component commanders prior to
- 30 establishment.
- 31 (2) If no, the ARFOR FSE must establish additional FSCMs to protect those forces.

1 **3. Marine Air-Ground Task Force (MAGTF) Ground Combat Element (GCE)**

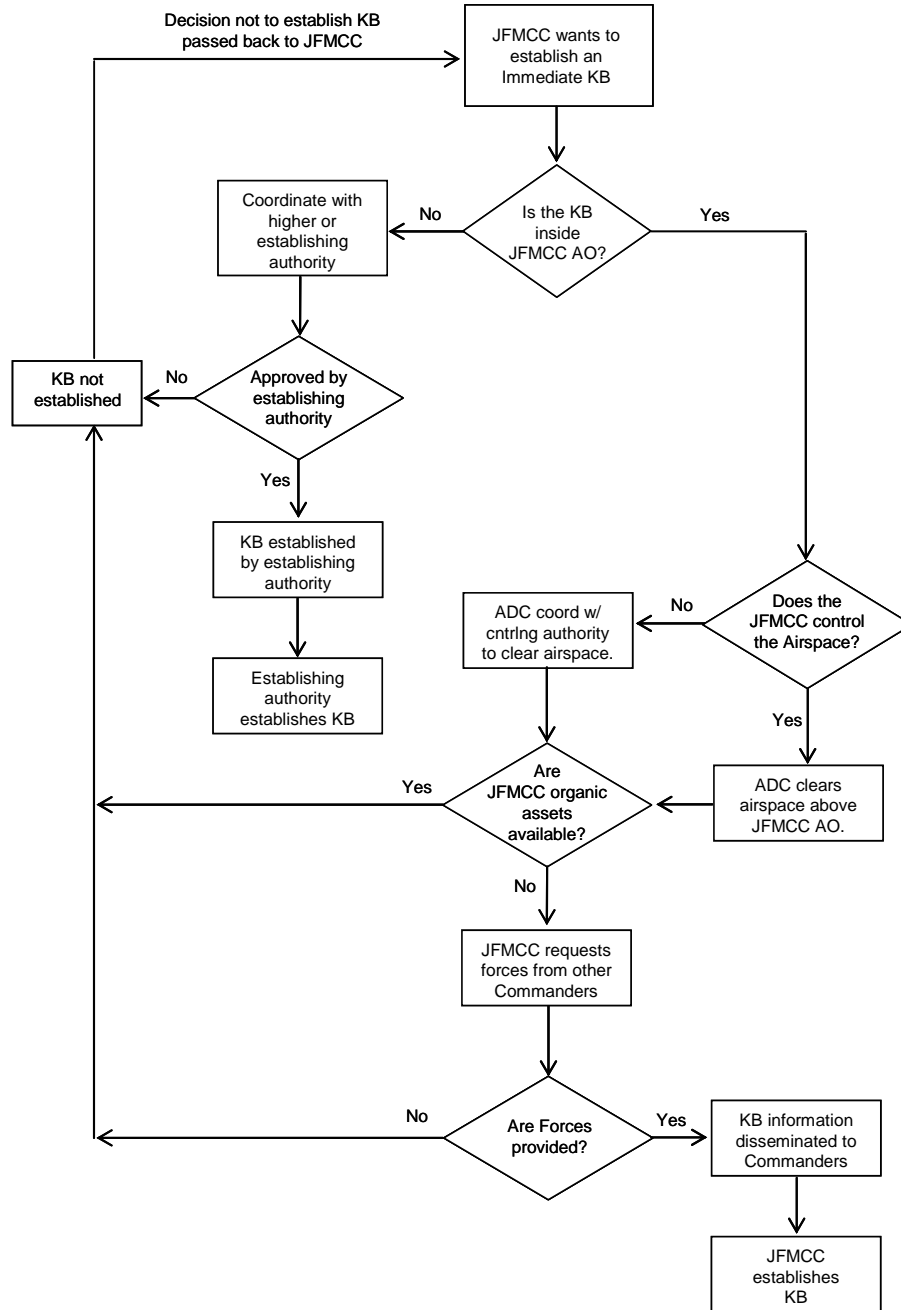
2 **Requesting Immediate Kill Box**



3 **Figure A-3. MAGTF GCE Requesting Immediate Kill Box Decision Flow Chart**

4

1 **4. Joint Force Maritime Component Commander (JFMCC) Requesting an**
 2 **Immediate Kill Box**



3 **Figure A-4. JFMCC Requesting Immediate Kill Box Decision Flow Chart**

4 The JFMCC immediate kill box decision flow chart is a tool to be used by the JFMCC staff to
 5 expedite establishing an immediate kill box. Prior to being used, the flow chart should be changed to

FINAL COORDINATION DRAFT

1 reflect the current situation. If used correctly, the flow chart will provide the JFMCC staff an
2 overview of the decisions to be made and the coordination required to open an immediate kill box.

3 a. Is the kill box in the JFMCC AO? – Yes

4 (1) Does the JFMCC control the airspace enveloped by the kill box?

5 (a) If yes, the ADC clears the airspace enveloped by the kill box.

6 (b) If no, the ADC coordinates with the airspace control authority (e.g., Chief of
7 Combat Operations [CCO] working for the JFACC in the JAOC) to clear the airspace enveloped by
8 the kill box.

9 (c) Are JFMCC organic assets available?

10 • If yes, a kill box is not established.

11 • If no, the JFMCC requests forces from other component commanders as supporting
12 assets.

13 (2) Do the other component commanders provide supporting assets to the JFMCC?

14 (a) If yes, the kill box information (location, time established/cancelled, etc.) is
15 disseminated to all component commanders prior to establishment.

16 (b) If no, a kill box is not established.

17 b. Is the kill box in the JFMCC area of operations (AO)? – No

18 (1) JFMCC Current Operations coordinates with the affected component commander to
19 establish a kill box.

20 (2) Does the affected component commander approve the establishment of a kill box in
21 his/her AO.

22 (a) If yes, the kill box information (location, time established/cancelled, etc.) is
23 disseminated to all component commanders prior to establishment in the affected component
24 commander's AO.

25 (b) If no, a kill box is not established.

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Appendix B

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COMPONENT COMMANDERS KILL BOX COORDINATION EXAMPLES

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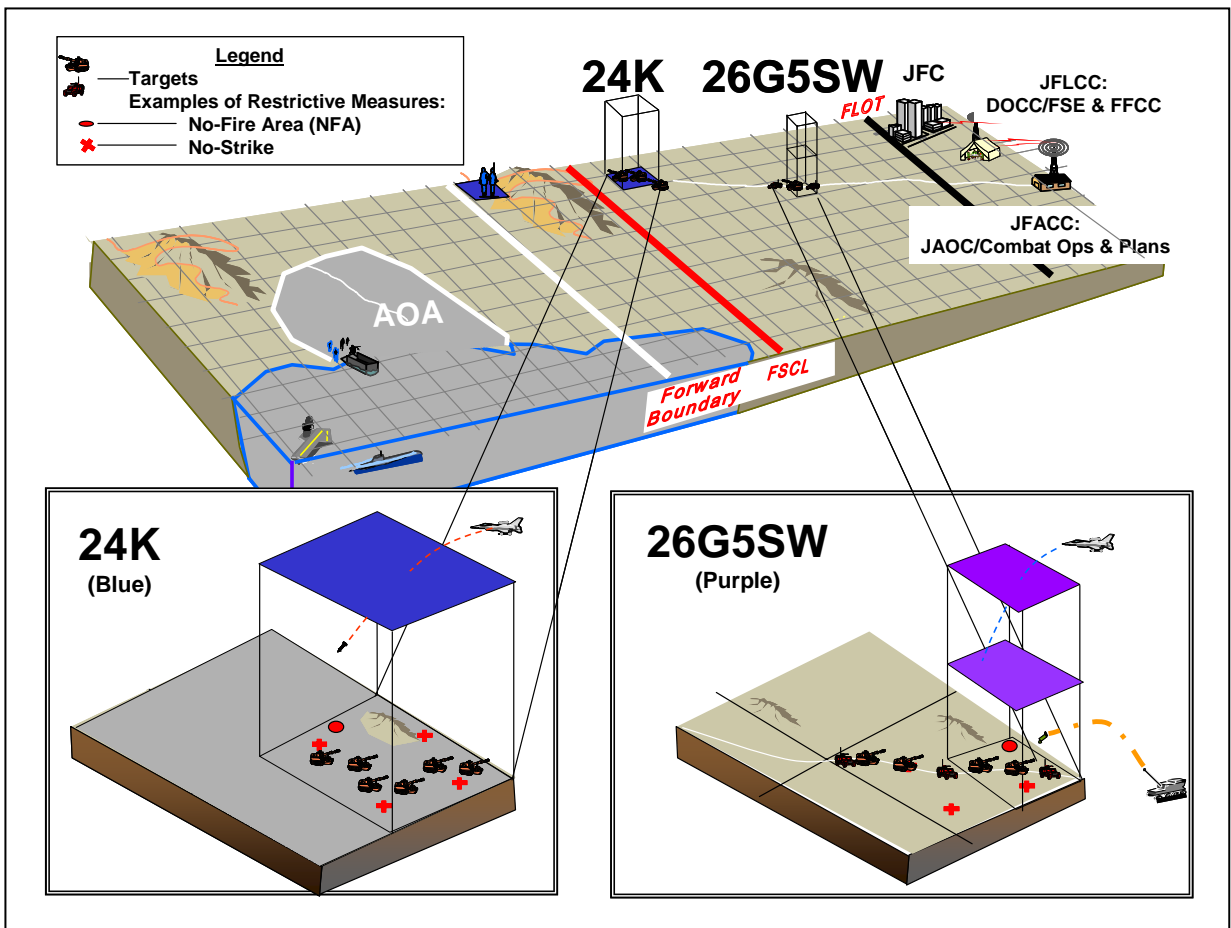
1. Kill Box Execution: Examples of Cross-component Coordination

6

The following mission examples demonstrate how the kill box process can be implemented across components. The examples explore different possibilities and illustrate key concepts in coordination of kill boxes, but are not intended to be all-inclusive.

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Figure B-1. JFLCC as the supported commander activates planned and immediate kill boxes

1 **2. JFLCC Planned Kill Box Example**

2 a. The Corps Commander's staff during the military decision-making process (MDMP) has
3 identified an area of expected enemy concentrations of armored forces in areas well beyond the
4 forward line of own troops (FLOT) and beyond the expected movement of friendly forces for the next
5 48 hours. Intending to shape the battle space, the FSCoord and ALO recommend that the Corps
6 Commander establish a kill box over the area. This will allow air assets to attack enemy targets
7 without further coordination. The kill box will not adversely affect ADA coverage for the corps.
8 (See Figure B-1, blue kill box.) They submit the following kill box request:

9 (1) Purpose: To destroy enemy armor assets in the area and degrade enemy forces for the
10 friendly forces.

11 (2) Geographic limits/kill box location: Using the area reference system, the entire cell 24K
12 is identified as a kill box.

13 (3) Effective times of establishment:

14 (a) Established at 0600Z 24Aug04

15 (b) Cancelled 0600Z 26Aug04 or on-order

16 (4) Kill Box Type: BLUE

17 (5) Establishing Authority: Corps

18 (6) Supported Commander's Targeting Guidance:

19 (a) Priorities: Tanks, ADA, and armored vehicles.

20 (b) Effects: Destroy/neutralize when found.

21 (c) Restrictions: Do not destroy bridges or road networks. No scatterable munitions
22 near bridges, roads, or road intersections.

23 (7) Remarks: No friendlies are within the proposed kill box. NFAs have been established
24 around restricted and no-strike targets.

25 **3. JFLCC Immediate Kill Box Example**

26 a. During shore operations, the headquarters of the MAGTF receives intelligence reports
27 concerning stationary and advancing enemy forces within their AOR. The enemy armored and
28 mechanized units are short of the FSCL but beyond but beyond the BCL and the range of Marine
29 organic indirect fires. The FSCoord and air officer recommend that a purple kill box be established
30 immediately to bring maximum joint fires to bear on the target. The The JFLCC (MEF commander)
31 agrees and establishes the kill box. (See Figure B-1, purple kill box) A message is prepared with the
32 following information:

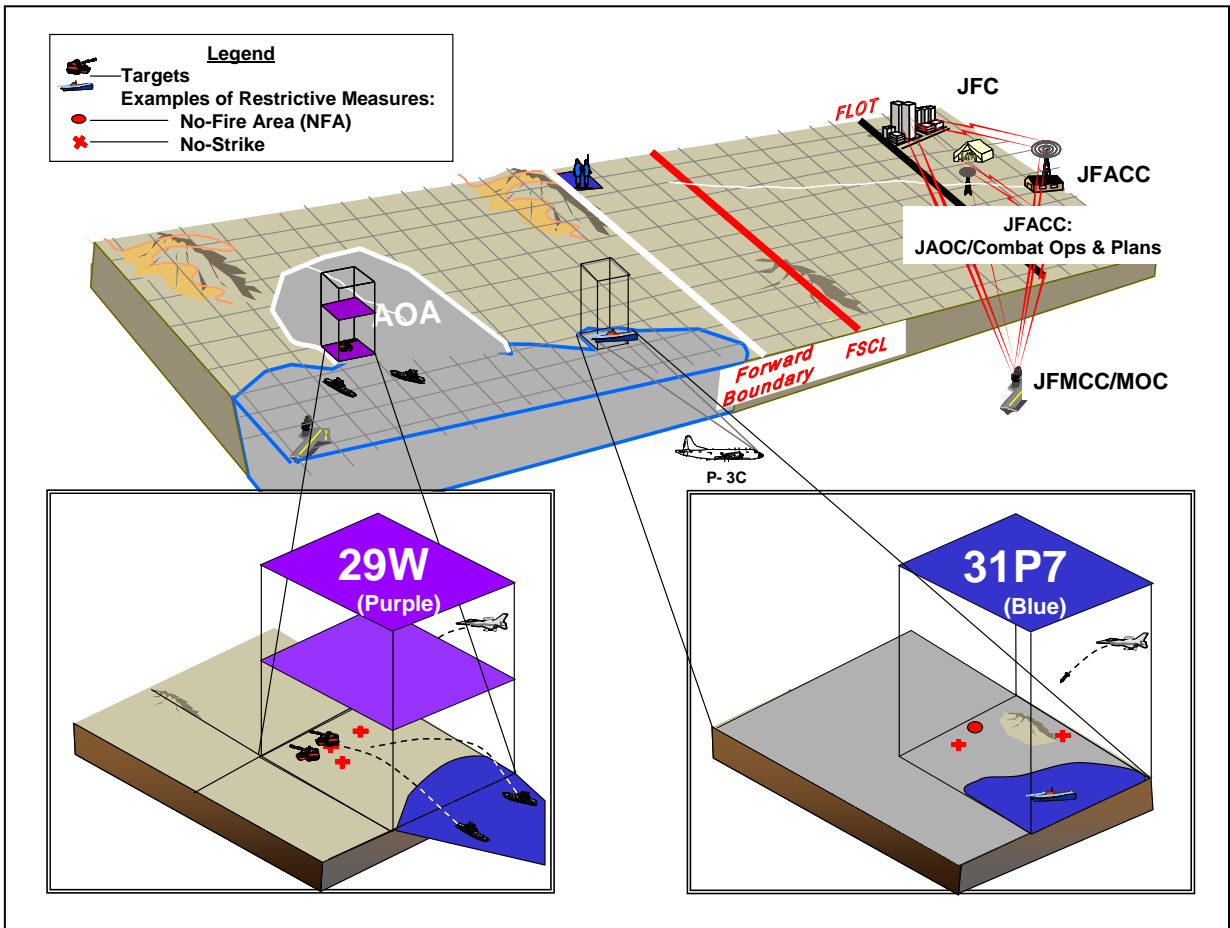
33 (1) Purpose: To destroy enemy armor and mechanized forces before they reach Marine Corps
34 units.

35 (2) Geographic limits/kill box location: Using the area reference system, the quadrant
36 26G5SW is identified as a kill box.

37 (3) Effective Times:

38 (a) Established: Immediately

- 1 (b) Cancelled: On-order
- 2 (4) Kill Box Type: PURPLE, min alt 12,000 ft MSL max alt 25,000 ft MSL.
- 3 (5) Establishing authority: MEF
- 4 (6) Supported Commander's Targeting Guidance:
 - 5 (a) Priorities: Tanks, armored vehicles, artillery
 - 6 (b) Effects: Destroy. Do not destroy bridges or road networks.
- 7 (7) Remarks: No friendlies are within the proposed kill box. There are no restricted or no
- 8 strike targets within the kill box.



9 **Figure B-2. JFMCC as the supported commander activates planned and immediate kill**
10 **boxes**

11 **4. JFMCC Planned Kill Box Example**

- 12 a. A Marine expeditionary brigade (MEB) level amphibious assault is scheduled to take place in
- 13 5 days within an amphibious objective area (AOA) designated by the JFC. The intelligence section of
- 14 the command element briefs the GCE commander (Regimental Combat Team [RCT] commanding
- 15 officer [CO]) on an enemy high speed armor avenue of approach into the AOA. The RCT CO

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1 determines the need to shape the amphibious landing area in preparation for the amphibious assault.
2 His/her fire support coordinator and air officer recommend establishing a purple kill box over the
3 area. This will allow for air assets and naval surface fire support (NSFS) to engage targets in the area
4 without further coordination. The ADC staff determines the kill box will not affect the air defense of
5 the AOA. (See Figure B-2, purple kill box) The RCT CO purple kill box request is based on the
6 following information:

7 (1) Purpose: To destroy enemy armor assets in the area and prohibit enemy forces from
8 approaching the beachhead area.

9 (2) Geographic limits/kill box location: Using the area reference system, the entire keypad
10 29W is identified as a kill box.

11 (3) Effective Times:

12 (a) Established at 0600Z D-3

13 (b) Cancelled at 0600Z D-Day

14 (4) Kill Box Type: PURPLE

15 (5) Establishing Authority: RCT

16 (6) Supported Commander's Targeting Guidance:

17 (a) Priorities: Tanks, armored vehicles, artillery

18 (b) Effects: Destroy. Do not destroy bridges or road networks. No scatterable
19 munitions near bridges, roads, or road intersections

20 (7) Remarks: No friendlies are within the proposed kill box. NFAs have been established
21 around restricted and no-strike targets.

22 **5. JFMCC Immediate Kill Box Example:**

23 a. A P-3 on a maritime patrol mission identifies an enemy ship (a submarine) being loaded with
24 mines in a port facility. The P-3 reports its findings to the strike warfare commander (SWC) watch,
25 in the Combat Division Center (CDC). The SWC watch simultaneously relays the information to
26 JFMCC Current Operations in the Maritime Operating Center (MOC) and looks for a surface asset to
27 intercept the submarine prior to getting underway. JFMCC Current Operations tasks the strike
28 warfare commander (SWC) watch (Bravo Papa) to locate a direct-use aircraft for tasking. JFMCC's
29 Current Operations receives the following information from Bravo Papa and the SWC watch: no
30 aircraft are available for a potential strike, and the closest naval combatant ship has a 5-hour transit
31 time to intercept the submarine. (See Figure B-2)

32 b. In addition to no-strike aircraft or surface combatants to engage the submarine, there are no
33 preplanned Tomahawk missions for the port facility. JFMCC Current Operations determines to most
34 expeditious method of destroying the enemy submarine prior to getting underway is to establish and
35 activate a blue kill box over the submarine for JFACC air assets to engage. JFMCC Current
36 Operations coordinates with the JFACC chief of combat operations (CCO) and passes the following
37 information to establish and activate the blue kill box and request air assets for engagement:

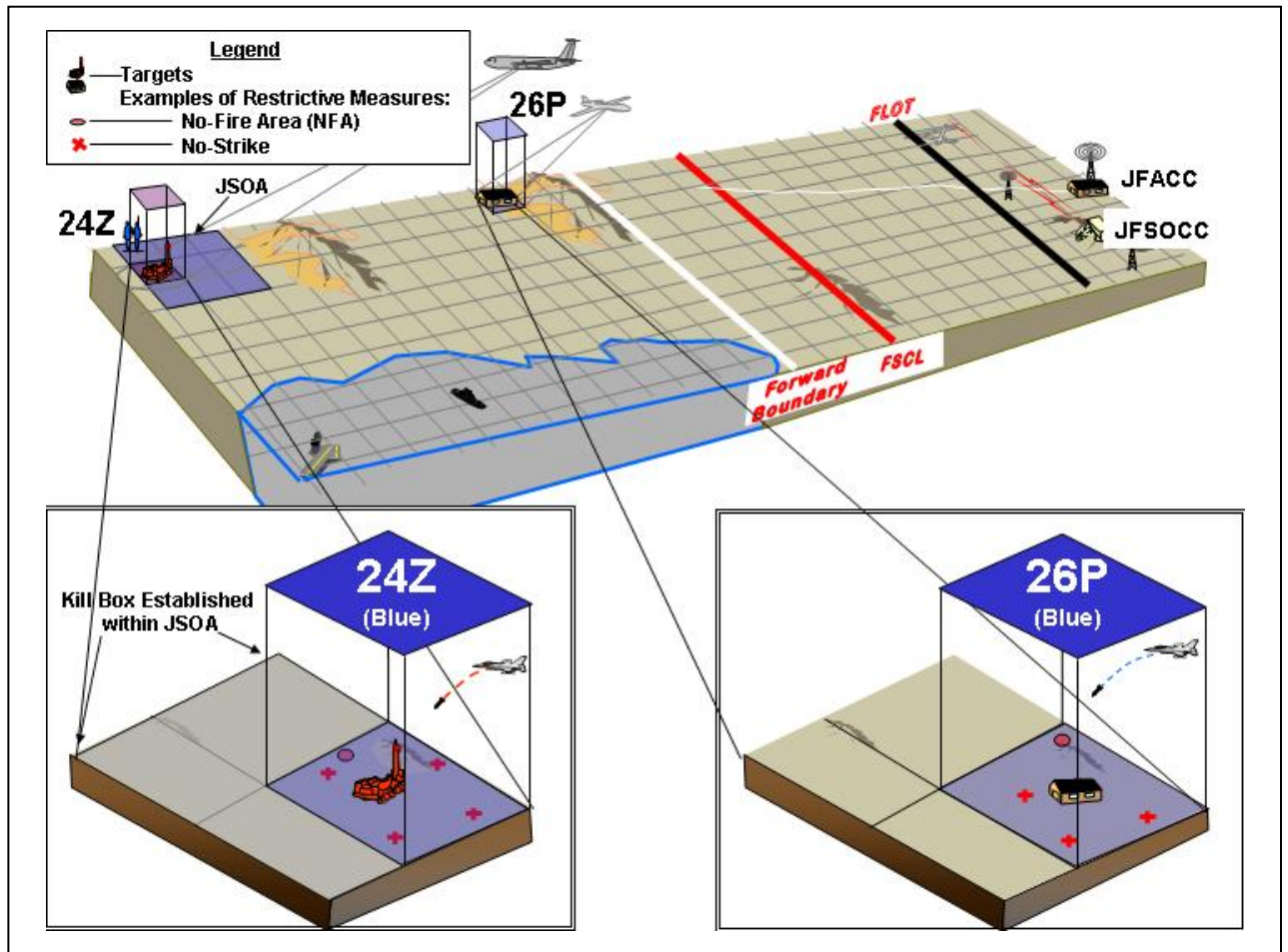
38 (1) Purpose: To destroy enemy submarine being loaded with mines in a port facility.

39 (2) Geographic limits/kill box location: Using the area reference system, the submarine and
40 the channel out of the port facility are identified as the kill box due to the unknown underway time of
41 the submarine: 31P7.

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- 1 (3) Effective Times:
 - 2 (a) Established at 261000ZAug04
 - 3 (b) Cancelled at 261500ZAug04 or on-order
- 4 (4) Kill Box Type: BLUE
- 5 (5) Establishing Authority: JFMCC
- 6 (6) Supported Commander's Targeting Guidance:
 - 7 (a) Priorities: Kilo submarine alongside pier in port facility, or underway;
 - 8 mines on pier in port facility, convoy vehicles carrying mine shapes in port facility.
 - 9 (b) Effects: Destroy. Do not destroy avenues of approach or port facilities.
- 10 No cluster munitions.
- 11 (7) Remarks: No friendlies are within the proposed kill box. NFAs have been established
- 12 around restricted and no strike targets.



13 Figure B-3. Planned and immediate kill boxes beyond the forward boundary in support of
14 JFACC operations

1 **6. JFACC Planned Kill Box Example**

2 a. Recent JFACC intelligence, surveillance, and reconnaissance (ISR) trending data has
3 determined that several potential enemy assembly areas are operating in a geographic region past the
4 forward boundary. The JAOC ISR Division (ISR/D) forwards this information through appropriate
5 intelligence representatives in the Combat Plans Division teams for kill box consideration in the
6 planning of the air tasking order (ATO). The JFACC is the supported commander for this example
7 and was given the authority for kill box establishment within the specified area of the JOA by the
8 JFC.

9 b. Within the Combat Plans Division, the target effects team (TET) and master air attack plan
10 (MAAP) team determine that a planned kill box is necessary to posture air power in the vicinity to
11 exploit the intelligence data. This will allow a permissive environment for air-to-surface fires over a
12 specified area of the battlespace.

13 c. In this example (See Figure B-3), the Combat Plans division (MAAP team) determines that a
14 kill box should be established over the area suspected of containing enemy assembly areas and
15 processes the request with the following information:

16 (1) Purpose: To destroy enemy assets in the area and degrade enemy forces for the friendly
17 forces.

18 (2) Geographic limits/kill box location: Using area reference system, cell 26P is identified as
19 a kill box.

20 (3) Effective Times:

21 (a) Established: 240600ZAug04

22 (b) Cancelled: 250600ZAug04

23 (4) Kill Box Type: BLUE

24 (5) Establishing Authority: JFACC

25 (6) Supported Commander's Targeting Guidance:

26 (a) Priorities: Tanks, armored vehicles, military-type vehicles, troop concentrations,
27 and ADA.

28 (b) Effects: Destroy when found. Do not destroy bridges or road networks. No
29 scatterable munitions near bridges, roads, or road intersections.

30 (7) Remarks: No friendlies are within the proposed kill box. NFAs have been established
31 around restricted and no-strike targets.

32 d. The first set of assets in the kill box, serving as the KBC is a 2-ship of F-15Es (call sign
33 Rocket 01) equipped with Low-Altitude Navigation and Targeting Infrared, Night (LANTIRN) pods.
34 The Predator (call sign Toy 51) enters the kill box and Rocket 01 establishes a kill box floor of
35 14,000 feet MSL to allow the Predator to operate unrestricted at 13,000 feet MSL. Further, Rocket 01
36 has Toy 51 concentrate its search efforts on Keypads 7-9 of the kill box.

37 e. Toy 51 locates enemy troops in the open and several stopped tanks and armored vehicles in
38 an adjacent tree line. Rocket 01 queries Airborne Warning and Control System (AWACS) if there are
39 any additional assets available to work with Predator while it continues to search the other keypads
40 within the kill box. AWACS notifies Rocket 01 that currently there is a 2-ship of F-14s (call sign
41 Voodoo 33) available and en route. Rocket 01 advises AWACS to bring the F-14s into Keypads 7-9
42 to work with the Predator at 15,000 feet MSL and maintain 17,000 feet MSL in the north.

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1 f. Voodoo 33 arrives in the kill box and begins working with the Predator receiving talk-ons to
2 the target. The PID is established by Voodoo 33 and the CDE for the troops in the open is low.
3 However, there is a collateral damage estimate (CDE) concern for two of the armored vehicles
4 adjacent to a building that appears to be used for unknown storage.

5 g. Voodoo 33 engages any positively identified enemy targets meeting the low CDE criteria
6 while they confer with the JAOC regarding the medium CDE targets.

7 h. With the CDE issue from AWACS, the senior operations duty officer (SODO) confers with
8 the CCO and appropriate combat operations team members regarding the collateral damage and gains
9 approval to engage the remaining armored vehicles while minimizing damage to the nearby building.

10 i. The SODO notifies AWACS of the approval to engage the remaining armored vehicles with
11 associated caveats. The AWACS, in turn, relays this information to the F-14s who comply.

12 j. Rocket 01 has now located what they believe are tanks on the move in Keypad 3 of the kill
13 box. However, they are unable to PID via their LANTIRN pods and intermittent cloud cover below
14 them is obscuring their view. They notify AWACS of their findings.

15 k. AWACS coordinates tactically to bring in a 2-ship of F-16s (call sign Snake 21) with Sniper
16 Pods to assist the F-15Es. As Snake 21 flight checks-in, Rocket 01 advises AWACS and the F-16s
17 that Rocket 01 is joker and en route to air refuel. Rocket 01 gives a point out of its tank activity and a
18 kill box update to Snake 21, to include the activity of the Predator and F-14s in Keypads 7-9. Rocket
19 01 further deconflicts its outbound altitude with that of the inbound Snake flight.

20 l. Snake 21 locates the tank column in Keypad 3 and PID via their Sniper Pods as enemy T-72
21 tanks. The CDE is low so they begin their engagements.

22 m. Once the engagements are over, inflight reports will be provided to AWACS prior to striker
23 check-out. AWACS will relay the in-flight reports to the JAOC via the SODO.

24 7. JFACC Immediate Kill Box Example

25 a. An E-8C Joint Surveillance Target Attack Radar System (JSTARS) has detected several
26 movements out of a suspected surface-to-surface missile system (SCUD) hide site that meets
27 reporting criteria within a known joint special operations area (JSOA). The JFACC determines that
28 the JSTARS tracks are potentially valid. The JFACC has appropriate weapon-target paired assets
29 available to engage the target tracks if they prove to be valid targets after PID. The JFACC has
30 determined that a kill box is necessary to rapidly open up the battlespace to allow a permissive
31 environment for air-to-surface fires over an expanding area. Due to the JSOA, the JFSOCC is the
32 supported commander and the JFACC is the supporting commander in this example. (See Figure B-
33 3)

34 b. The JFACC has an imagery sensor focused in the JSOA seeking to locate potential SCUD
35 activity suspected to be operating in the area. A JSTARS is currently tracking several “movers” away
36 from a suspected SCUD hide site within the JSOA and requires assistance to determine identification
37 and potential courses of action.

38 c. Within the JAOC, the JFACC’s senior intelligence duty officer (SIDO) confers with the
39 SODO to determine that assets are available to send for investigation of the JSTARS tracks. The
40 SODO will request through the CCO that a blue kill box be established over the area of the JSTARS
41 reported tracks. The CCO will then request approval through the special operations liaison element
42 (SOLE) within the JAOC. JSOTF (or SOLE) will forward kill box approval/restrictions to the theater
43 kill box manager (BCD OPS) for input into display systems (automated deep operations coordination

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1 system [ADOCS], C2PC, etc.) that can be viewed by all component HQ nodes. For purposes of this
2 example, the request for kill box activation is based upon the established area reference system and
3 will be prepared with the following information as an example:

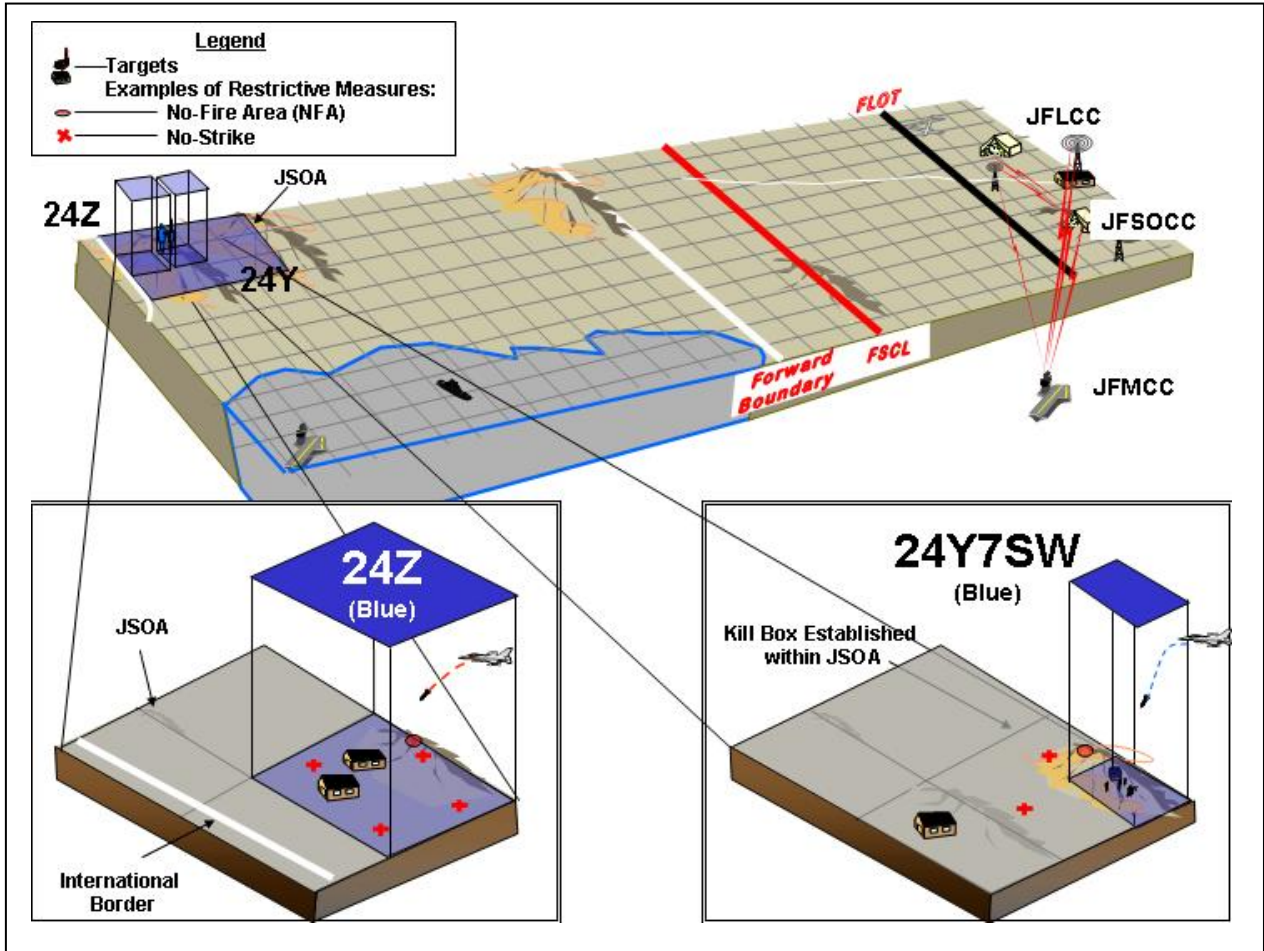
- 4 (1) Purpose: To destroy enemy SCUD assets in the area.
- 5 (2) Geographic limits/kill box location: Using area reference system, the cell 24Z is identified
6 as a kill box.
- 7 (3) Effective Times:
 - 8 (a) Established: Immediately
 - 9 (b) Cancelled: On Order
- 10 (4) Kill Box Type: BLUE
- 11 (5) Establishing Authority: JFACC
- 12 (6) Supported Commander's Targeting Guidance:
 - 13 (a) Priorities: SCUD missiles, SCUD- transporter-erector-launchers (TELs), missile
14 transporters, SCUD-related support equipment, and ADA.
 - 15 (b) Effects: Destroy. Do not destroy bridges or road networks. No scatterable
16 munitions near bridges, roads, or road intersections.
 - 17 (7) Remarks: No known information on friendlies operating within the proposed kill
18 box. There are no restricted or no-strike targets within the kill box.
- 19 d. The SOLE will subsequently coordinate with the affected JSOTF FSE in the JSOA to gain
20 approval for the establishment of a blue kill box within the JSOA. The JSOTF will either approve or
21 disapprove the JFACC's request.
- 22 e. After approval, the JSOTF will relay to the SOLE their concurrence for the blue kill box
23 establishment along with any restrictions. The SOLE then relays the approval to the CCO in the
24 JAOC. The restrictions for this example include a single closed keypad within the kill box grid,
25 24Z1. There is a special operations forces (SOF) unit operating within that keypad, call sign Torpedo
26 24 on TAD 159 frequency.
- 27 f. The CCO will then notify both the SIDO and SODO of the kill box establishment and
28 amplifying information. The SODO will relay the kill box establishment to appropriate tactical
29 command and control nodes to include the JSTARS with instructions to assign available assets to
30 investigate the reported tracks.
- 31 g. JSTARS tasks both a 2-ship of F-16s, call sign Python 01, and a 2-ship of F-15Es, call sign
32 Hoss 11, to investigate two of the tracks within the now established blue kill box 24Z. Since Hoss 11
33 flight is closer and will arrive first, they will assume control of kill box coordination with all other air
34 assets once established.
- 35 h. Upon arrival, Hoss 11 notifies the JSTARS that they will be operating at 17,000 feet MSL
36 and to have Python 01 flight enter and maintain 19,000 feet MSL. Hoss 11 locates and identifies one
37 of the JSTARS tracks as an enemy SA-6 on the move. PID requirements are met and the CDE is low.
38 Since there will be additional air assets arriving in the area shortly (the F-16s), Hoss 11 elects to
39 engage the SA-6 even though it is not a SCUD entity.
- 40 i. JSTARS notifies Python 01 of Hoss 11's kill box coordination plan. Upon kill box entry,
41 Python 01 locates their JSTARS provided track and identifies it as an enemy SCUD-TEL with missile
42 that has just turned off-road. The flight lead determines the CDE to be low but the location is

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1 adjacent to the closed keypad within the kill box, 24Z1. Python 01 elects to coordinate tactically with
2 Torpedo 24 to ensure deconfliction prior to engagement of the SCUD-TEL.

3 j. Upon successful engagements of the SA-6 and SCUD-TEL, the flight leads of both the F-
4 15Es and F-16s notify the JSTARS via an in-flight report. JSTARS continues working with the F-
5 15Es and F-16s to investigate additional tracks of interest within the kill box.

6 k. Upon receipt of the F-15Es and F-16s in-flight report from the JSTARS to the SODO
7 validating SCUD activity within kill box 24Z, the JFACC continues to coordinate with the SOLE to
8 maintain 24Z as an established, open blue kill box for the near term in order to continue to
9 investigative for engagement activity within the kill box.



10 **Figure B-4. Planned and immediate kill boxes beyond the forward boundary in support of**
11 **JFSOCC operations**

12 **8. JFSOCC Planned Kill Box Example**

13 a. Foot and vehicle traffic have been reported by a reliable source along the border of friendly
14 and hostile nation states. It is believed that this area is being used by hostile forces as an infiltration
15 and ex-filtration point for the delivery of supplies and personnel to the combat area. It is
16 recommended by the Army special operations task force (ARSOTF) to the JFSOCC that an

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1 Operational Detachment Alpha (ODA) be inserted to observe the area and report observations and
2 findings to the JFSOCC. A JSOA has been designated in support of the ODA with established kill
3 boxes encompassing the reported movement of enemy forces. (See Figure B-4)

4 (1) Purpose: To destroy personnel and equipment infiltrating the combat area from a hostile
5 state's recognized international border.

6 (2) Geographic limits/kill box location: Using the area reference system, the entire cell of 24Z
7 is identified as a kill box.

8 (3) Effective Times

9 (a) Established at 240600Z Aug04

10 (b) Cancelled at 261500Z Aug04 or on-order

11 (4) Kill Box Type: BLUE

12 (5) Establishing Authority: JFSOCC

13 (6) Supported Commander's Targeting Guidance:

14 (a) Priorities: Personnel, equipment, vehicles, and pack animals.

15 (b) Effects: Destroy when found.

16 (7) Remarks: No friendlies are within the proposed kill box. NFAs have been established
17 around restricted and no-strike targets. NFAs have been established around SOF team in vicinity of
18 kill box. JFSOCC notifies all component commanders through their liaison elements:

19 (a) SOLE at the JFACC

20 (b) Special operations command and control element (SOCCE) at the JFLCC

21 (c) Naval special warfare task unit (NSWTU) at the JFMCC

22 (d) Liaison officer (LNO) at the JFC

23 9. JFSOCC Immediate Kill Box Example

24 a. ODA has been given the mission of strategic reconnaissance. While performing this mission
25 the ODA has come upon an insurgent force in the open that appears to be rehearsing actions on an
26 objective. There appears to be two to five individuals of importance observing. The ODA
27 commander believes that there are at least two of these individuals that have been designated as high
28 priority targets (HPTs) by the President or Secretary of Defense. The ODA commander has requested
29 an immediate kill box be established. The ODA commander has requested that the kill box not be
30 opened until at least 30 minutes after approval to give the ODA time to vacate the immediate area.
31 JFSOCC staff receives and acknowledges the request and passes it on to the JFSOCC. JFSOCC
32 approves and establishes an immediate purple kill box. JFSOCC directs the ODA upon cancellation
33 of the kill box to conduct a BHA of the attack. The JFSOCC staff sends out the following
34 information. (See Figure B-4)

35 (1) Purpose: To destroy HPTs and other combatant personnel and equipment.

36 (2) Geographic limits/kill box location: Using the area reference system, the entire quarter of
37 24Y7SW is identified as a kill box.

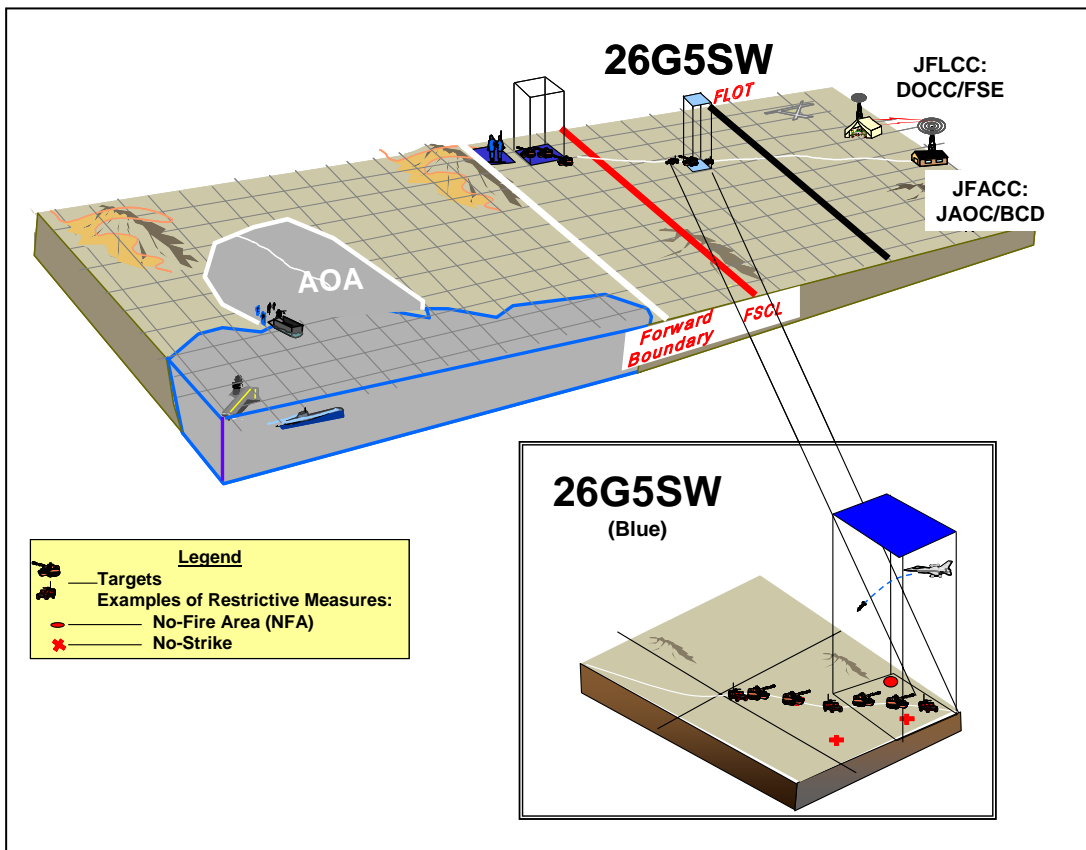
38 (3) Effective Times

39 (a) Established at 240630Z Aug04

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- 1 (b) Cancelled on-order
- 2 (4) Kill Box Type: PURPLE
- 3 (5) Establishing Authority: JFSOCC
- 4 (6) Supported Commander's Targeting Guidance:
 - 5 (a) Priorities: Personnel identified as HPTs. Other combatant personnel and equipment.
 - 6 Training camp.
 - 7 (b) Effects: Destroy
- 8 (7) Remarks: No friendlies are within the kill box after 0630Z. There are no restricted and
- 9 no-strike targets with-in the kill box. NFA have been established around SOF team in vicinity of kill
- 10 box. JFSOCC notifies all component commanders through their liaison elements:
 - 11 (a) SOLE at the JFSOCC
 - 12 (b) SOCCE at the JFLCC
 - 13 (c) NSWTU at the JFMCC
 - 14 (d) LNO at the JFC



15 Figure B-5. ASOC-directed Employment of CAS Assets in an Interdiction Role in a Kill Box

1 **10. ASOC-Directed Employment of CAS Assets in an Interdiction Role in a Kill**
2 **Box**

3 a. The corps airborne control element (ACE) receives intelligence reports concerning advancing
4 enemy forces. The enemy armored and mechanized units are short of the FSCL but beyond the range
5 of corps organic indirect fires and deep employment of rotary wing assets would take too long. The
6 enemy forces are located in a blue kill box. CAS missions have been allocated to the corps. The
7 FSC and ALO determine that the only assets capable of interdicting the enemy forces are a series of
8 CAS missions supporting the corps in the current ATO; no interdiction sorties can be diverted and
9 there are no other assets available. The FSCoord and the ALO recommend that the CAS missions
10 be directed to interdict the enemy forces in the kill box. The combat operations section at the JAOC
11 agrees and notifies the E-3 AWACS to coordinate tactical command and control in the kill box. (See
12 Figure B-5) A message is prepared with the following information:

13 (1) Purpose: To destroy enemy armor and mechanized forces before they reach corps units.

14 (2) Geographic limits/kill box location: Using the area reference system, the active kill box is
15 confirmed as 26G5SW.

16 (3) Effective Times:

17 (a) Established: Confirms KB 26G5SW.

18 (b) Cancelled: As defined when established (modified as necessary to support current
19 requirements).

20 (4) Kill Box Type: BLUE

21 (5) Established Authority: Corps

22 (6) Supported Commander's Targeting Guidance:

23 (a) Priorities: Tanks, and armored vehicles.

24 (b) Effects: Destroy. Do not damage bridges or road networks.

25 (7) Remarks: No friendlies are within the proposed kill box. There are no restrictions or no-
26 strike targets within the kill box.

27 b. Upon coordination with the JAOC, the information is also forwarded by the FSE to the
28 JFLCC deep operation coordination cell (DOCC)/FSE and BCD, for situational awareness. The FSE
29 verifies that the kill box exists in AFATDS. The ASOC directs selected CAS missions into the kill
30 box to interdict enemy forces IAW corps priorities. The ASOC identifies an available mission to
31 conduct coordination within the kill box and directs other missions to the kill box for attack. Upon
32 completion of mission the ASOC informs the JAOC of all CAS missions that were diverted and
33 relays any available mission reports (MISREPS) for those missions. FSE notifies the JFLCC
34 DOCC/FSE and BCD of mission completion and passes any results available at completion.

1

Appendix C

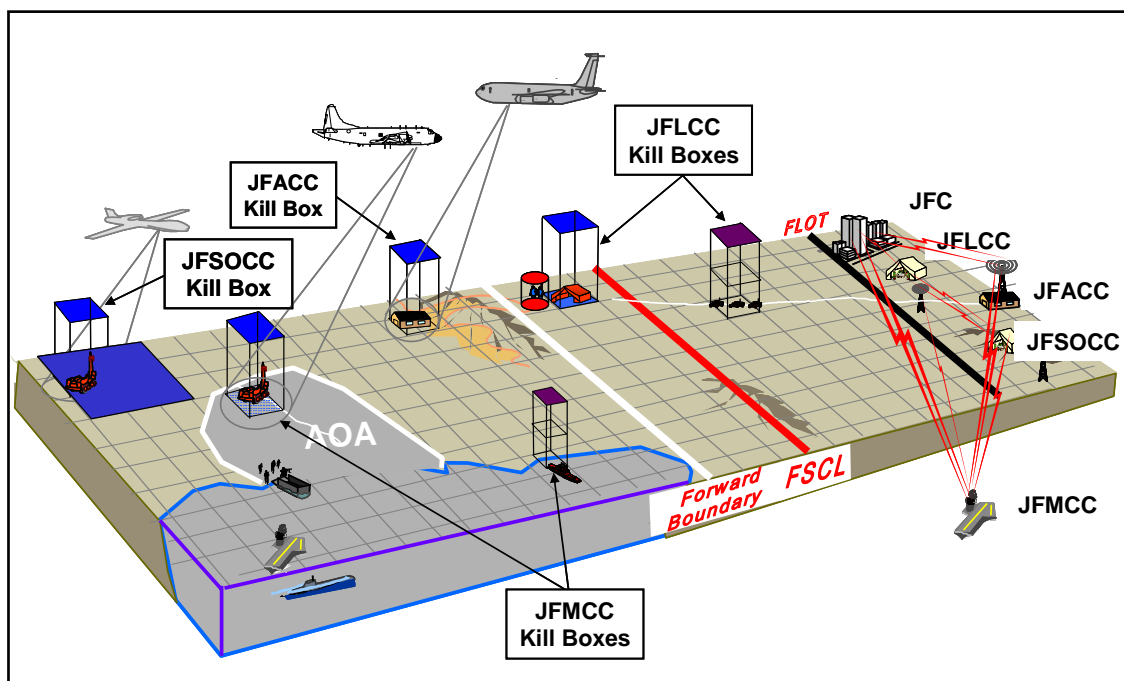
2

SUPPORTED COMMANDERS C2 FOR KILL BOX OPERATIONS

3

This illustration (See Figure C-1) is used throughout this appendix to portray possible kill boxes that can be established throughout the AOR for a JTF's functional component commanders.

4



5

Figure C-1. Example of component commander Kill box in JFC AOR

6

1. JFLCC C2 for Planned Kill Box Operations

7

a. Figure C-1 depicts examples of blue and purple kill boxes within the C2 of the JFLCC's area of operation.

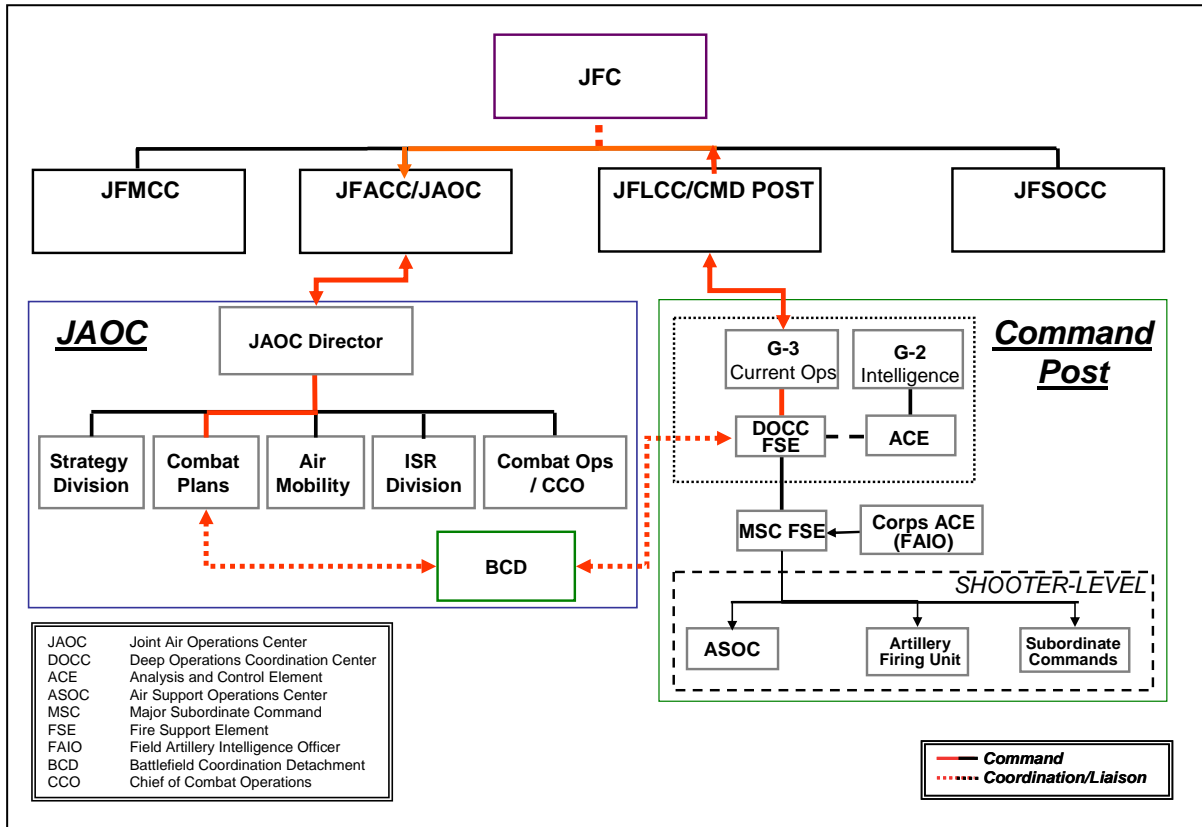
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9

b. Once approved by the Corps Commander/JFLCC, the kill box is forwarded to the JFLCC DOCC/FSE and BCD which informs the JFACC's JAOC. The corps DOCC/FSE informs all field artillery, air defense and army aviation units of the kill box. The field artillery units create an Airspace Coordination Area in AFATDS for cell 24K from surface to the standard kill box height as identified in the SPINS (e.g. 25,000 ft MSL). This prevents the trajectory from any surface-to-surface fire from passing through the kill box without further coordination. Air defense identifies the kill box as a weapons hold area (HIDACZ, weapons control status "Hold") and army airspace command and control (A2C2) cell identifies the kill box for restricted operations that will prevent transient

16

1 helicopters from entering the airspace. The corps operations officer (G3) creates a phase line at some
 2 distance from the kill box that will alert him to the unexpected arrival of friendly troops triggering
 3 cancellation of the kill box before the established time if required. Diagram below (See Figure C-2)
 4 depicts the ARFOR as the JFLCC and it's C2 flow for a planned kill box.



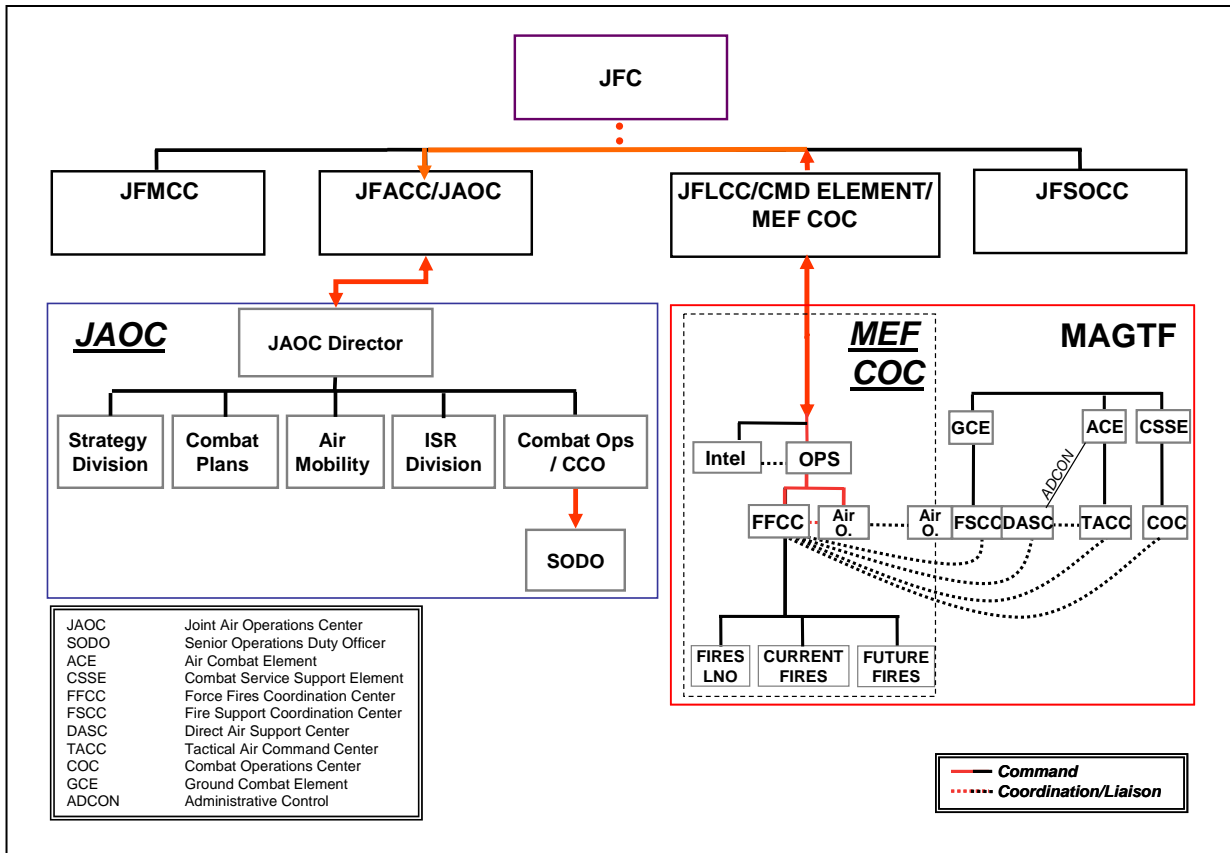
5 **Figure C-2. JFLCC's Planned Kill Box Operational C2 Flow**

6 **2. JFLCC C2 for Immediate Kill Box Operations**

7 a. Figure C-1 depicts examples of blue and purple kill boxes within the C2 of the JFLCC's area
 8 of operation.

9 b. The MEF FFCC immediately informs the JFLCC DOCC/FSE via AFATDS/ADOCS of the
 10 establishment of the kill box. The BCD is notified by the same message and passes the information to
 11 the JAOC. The FFCC inputs the kill box information into AFATDS. This ensures that all Marine
 12 and Army artillery FSE/fire support coordination centers (FSCCs) and fire direction centers (FDC)s
 13 are notified. The trajectories of surface-to-surface fires will not enter the restricted airspace (12000 –
 14 25000 ft MSL) of the kill box. Trajectories below the kill box minimum altitude (12000 ft MSL) are
 15 allowed and multiple Army indirect surface-to-surface assets are directed to engage the enemy forces.
 16 The Marine division (MARDIV) air officer notifies the DASC (voice or chat) of the establishment of
 17 the kill box and recommends maximum application of airpower against the enemy forces in addition
 18 to the Army artillery preparing to engage. The tactical air command center (TACC) also receives kill
 19 box information and relays it to the DASC and the JAOC (BCD OPS). The TACC could delegate
 20 divert authority to the DASC to expedite attack of targets in the kill box. The DASC identifies an

1 available flight to conduct coordination within the kill box and assigns another flight to the kill box
 2 for attack. Diagram below (See Figure C-3) depicts the Marine Corps forces (MARFOR) as the
 3 JFLCC and it's C2 flow for a immediate kill box.



4 **Figure C-3. JFLCC's Immediate Kill Box Operational C2 Flow**

5 **3. JFMCC C2 for Planned Kill Box Operations**

6 a. Figure C-1 depicts examples of blue and purple kill boxes within the C2 of the JFMCC's area
 7 of operation.

8 b. The RCT FSCC passes this request to the MEB staff for approval. The MEB Commander
 9 concurs with the kill box request. The FSCC passes this information to the Supporting Arms
 10 Coordination Center (SACC). The SACC briefs the kill box request to the JFMCC. The JFMCC
 11 concurs and establishes the kill box. The SACC further coordinates with the TACC, Air Combat
 12 Element (ACE). JFMCC Future Operations tasks the Surface Warfare Commander to plan the Naval
 13 Surface Fire Support and coordinate with the SACC. The TACC passes the kill box specifics to
 14 JFACC Combat Plans in the JAOC. Combat Plans creates missions for the kill box in ATOs AJ
 15 through AL. ATOs AJ through AL include the following assets for kill box operations: two strike
 16 aircraft 4 times per day with an E-2C for tactical command and control. Two Arleigh Burke
 17 Destroyers are scheduled to be on station to coincide with the air strikes 4 times per day. Diagram
 18 below (See Figure C-4) depicts the MARFOR as the JFMCC and it's C2 flow for a planned kill box.

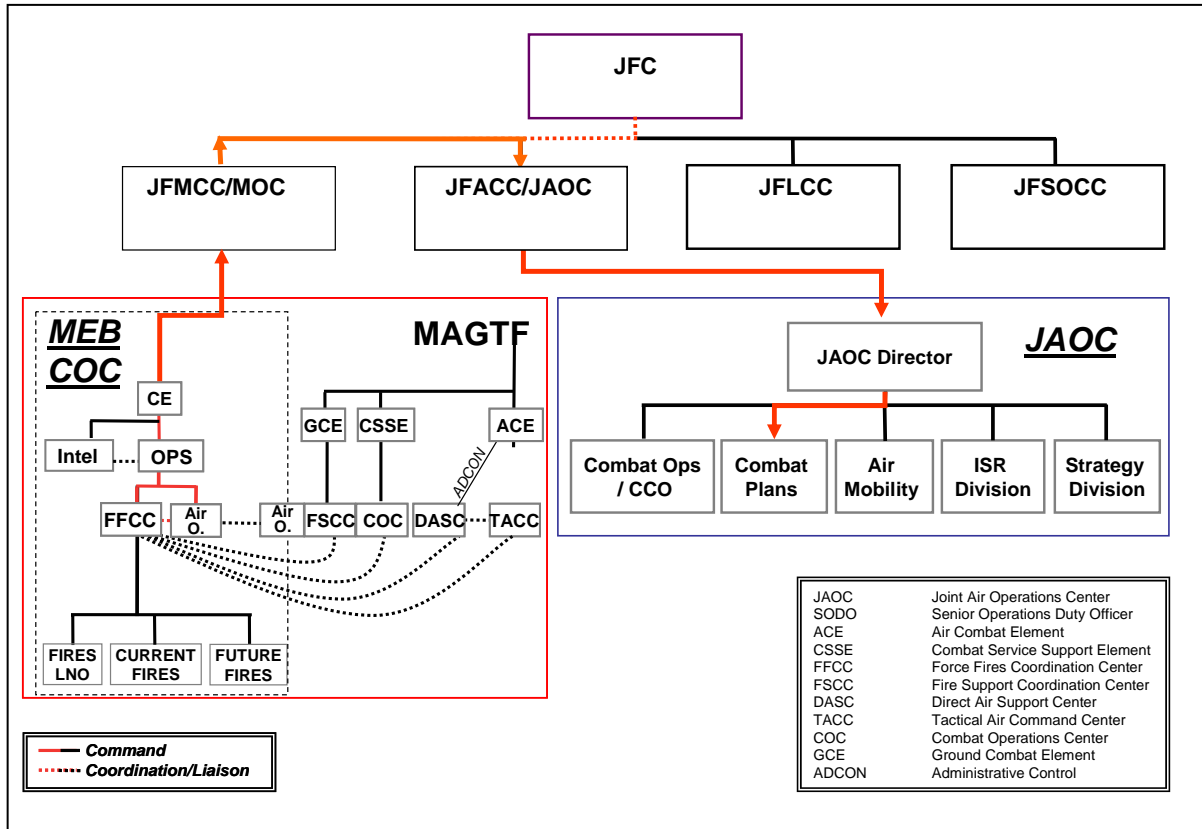


Figure C-4 JFMCC's Planned Kill Box Operational C2 Flow

1

2 **4. JFMCC C2 for Immediate Kill Box Operations**

2

3 a. Figure C-1 depicts examples of blue and purple kill boxes within the C2 of the JFMCC's area
 4 of operation.

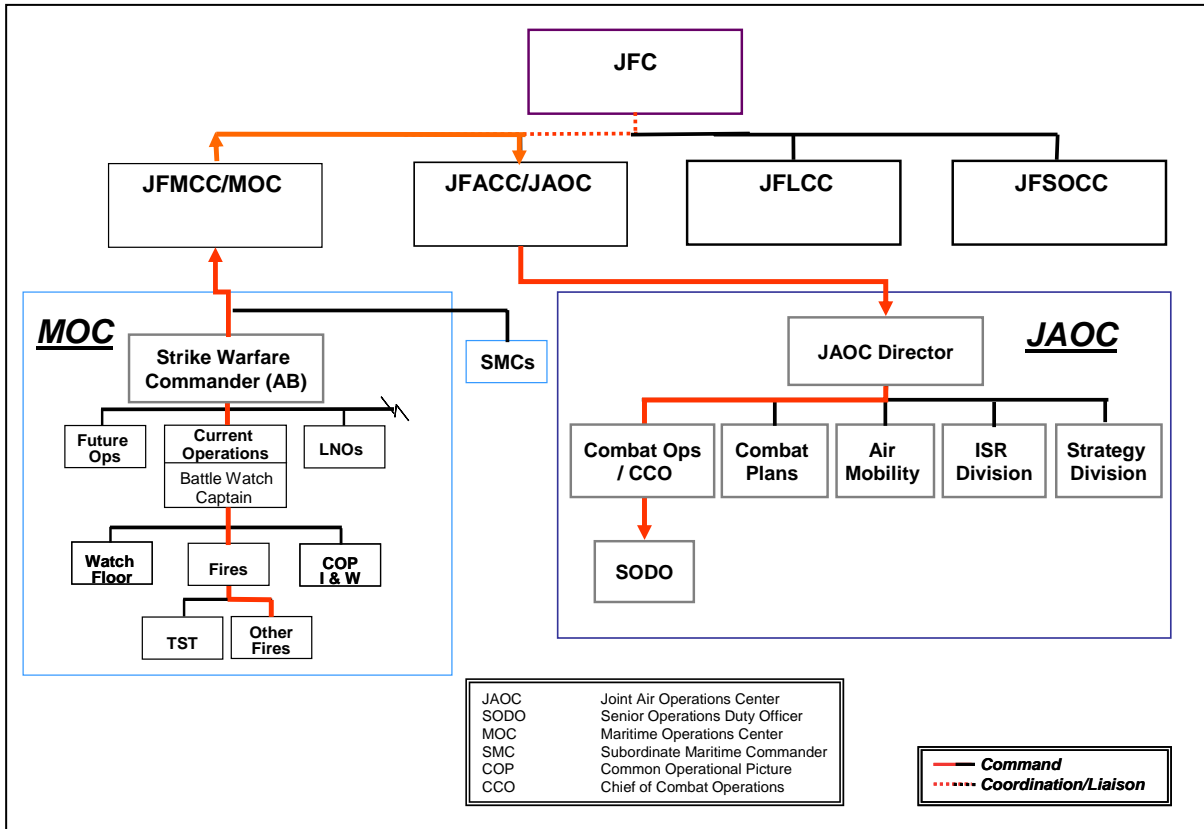
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5 b. JFMCC's current operations has the SWC watch officer maintain the P-3 on passes the target
 6 onto SODO for weapon-target pairing. CCO establishes and activates the kill box airspace. The
 7 SODO pairs the submarine with 2 A-10's (11000 rounds 30mm) RTB from a CAS mission, and
 8 passes the re-role to the E-3. The E-3, updated with the latest information from the on-station P-3
 9 passes the target assignment to a flight of A-10s. The A-10s find the target, obtain PID, ensure
 10 friendly deconfliction is accomplished, conduct collateral damage assessment from the cockpit and
 11 strafe the submarine. With the A-10's "Winchester", the P-3 coordinates a pass for BHA.

5
6
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10
11

12 c. JFACC's CCO passes the target onto SODO for weapon-target pairing. CCO establishes and
 13 activates the kill box airspace. The SODO pairs the submarine with 2 A-10's (11000 rounds 30mm)
 14 RTB from a CAS mission, and passes the re-role to the E-3. The E-3, updated with the latest
 15 information from the on-station P-3 passes the target assignment to a flight of A-10s. The A-10s find
 16 the target, obtain PID, ensure friendly deconfliction is accomplished, conduct collateral damage
 17 assessment from the cockpit and strafe the submarine. With the A-10's "Winchester", the P-3
 18 coordinates a pass for BHA. Diagram below (See Figure C-5) depicts the MARFOR as the JFMCC
 19 and it's C2 flow for a immediate kill box.

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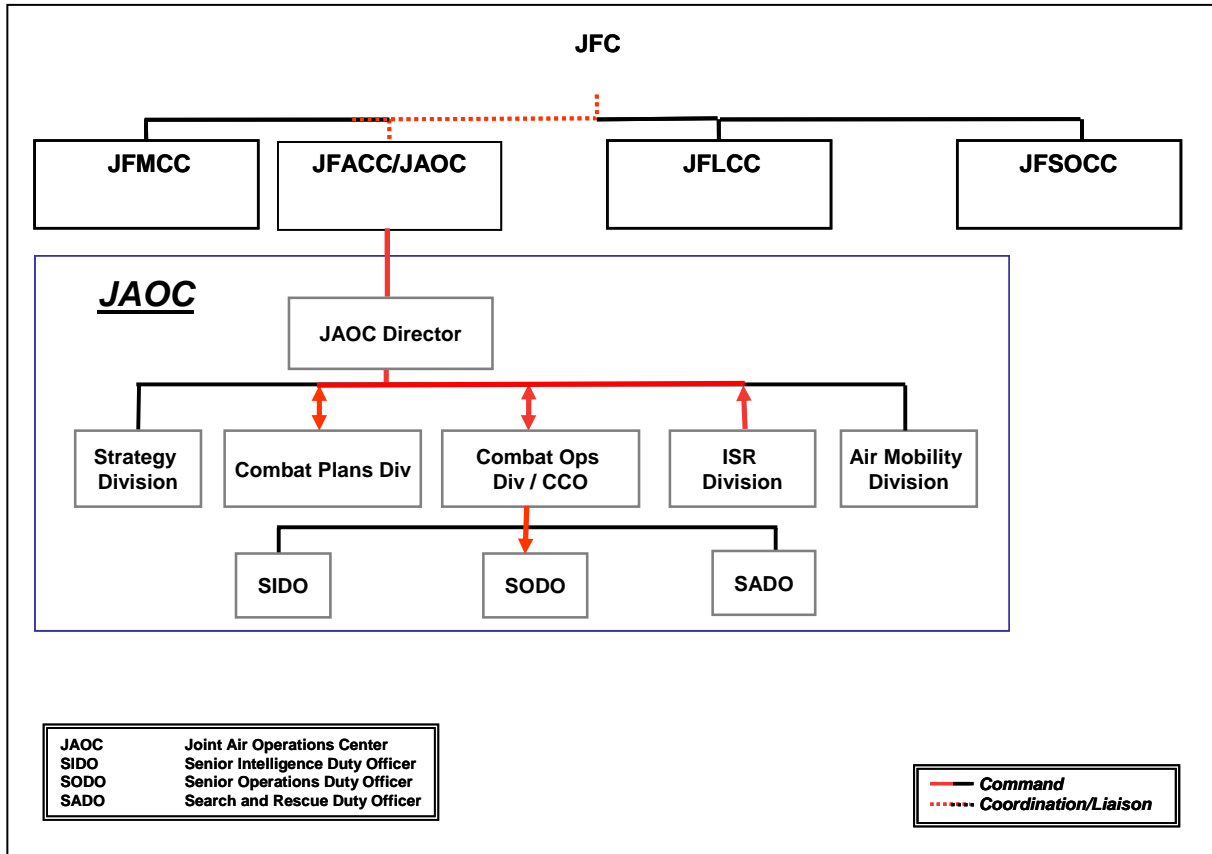


1 **Figure C-5. JFMCC's Immediate Kill Box Operational C2 Flow**

2 **5. JFACC C2 for Planned Kill Box Operations**

3 a. Figure C-1 depicts an example of a blue kill boxes employed beyond the forward boundary in
 4 support of JFACC's operation.

5 b. The MAAP team plans missions to ACM airspaces, points or targets associated with planned
 6 kill boxes. Kill box attributes, desired target sets, NSL/RTL restrictions, activation and deactivation
 7 will be specified in the SPINS or MISSION APMS fields of the ATO. Changes to the air battle plan
 8 (ABP) after release of the ATO will be disseminated via ATO/ACO changes (time permitting). Short
 9 notice changes during ATO execution are disseminated to air assets through appropriate airspace
 10 control agency. The Combat Operations Division of the JAOC acting under the authority of the
 11 Airspace Control Authority will coordinate changes and deconfliction with the other component
 12 Airspace Control Agencies (JFLCC, JFMCC and joints special operations component commander
 13 [JFSOCC]) via kill box coordination C2 systems (C2PC, ADOCS/WEEMC or Chat). Combat
 14 Operations will execute the prescribed ATO with the annotated established kill box. Assigned assets
 15 will execute the fraged ATO which includes an E-3 AWACS for tactical command and control, a
 16 RQ-1 Predator, and multiple flights of 2-ship of strike assets with mixed munitions scheduled to
 17 operate SCAR missions in 2-hour vulnerability (VUL) windows in the kill box during the ATO day.
 18 Diagram below (See Figure C-6) depicts the the JFACC and it's C2 flow for a planned kill box.

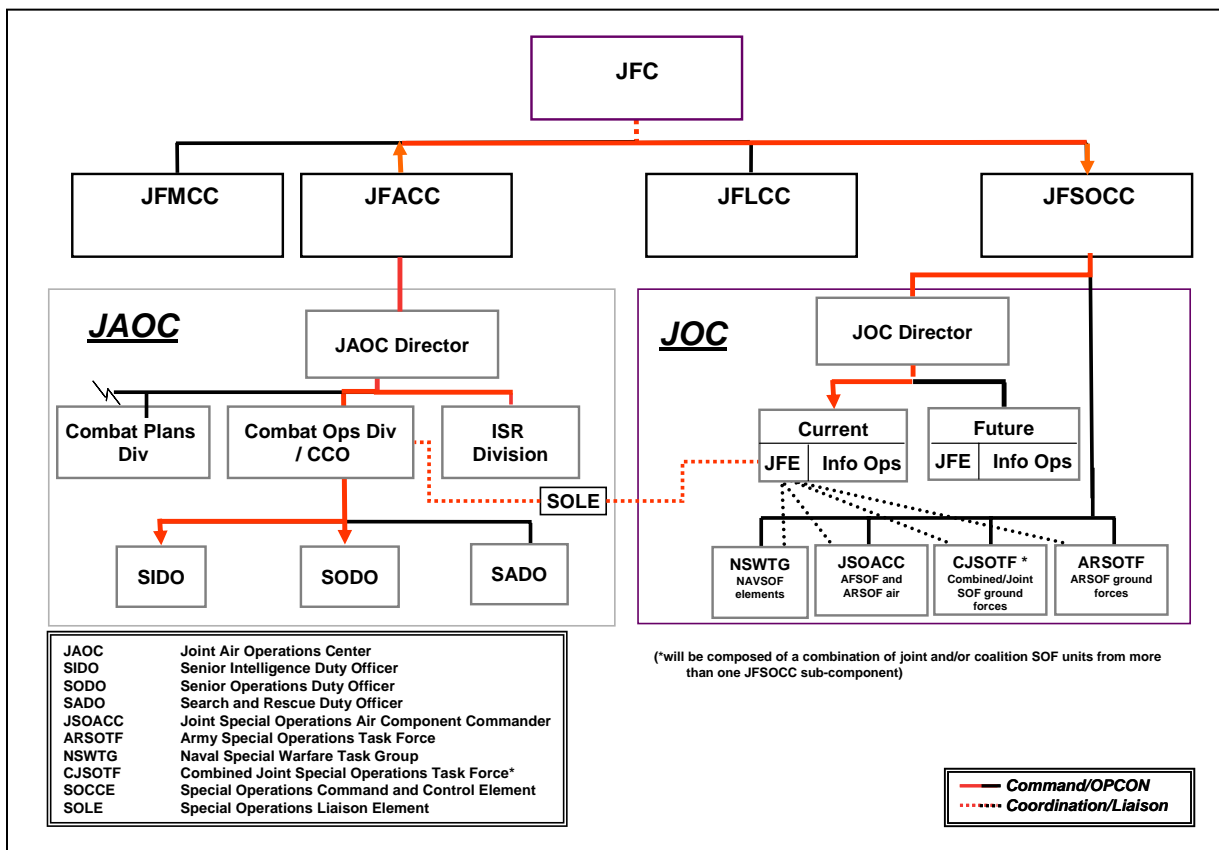


1 **Figure C-6: JFACC's Planned Kill Box Operational C2 Flow**

2 **6. JFACC C2 for Immediate Kill Box Operations**

3 a. Figure C-1 depicts an example of a blue kill boxes employed beyond the forward boundary in
 4 support of JFACC's operation.

5 b. Within the JAOC, the JFACC's Senior Intelligence Duty Officer (SIDO) confers with the
 6 SODO to determine that assets are available to send for investigation of the JSTARS tracks. The
 7 SODO will request through the CCO that a Blue kill box be established over the area of the JSTARS
 8 reported tracks. The CCO will then request approval through the SOLE within the JAOC. JSOTF (or
 9 SOLE) will forward kill box approval/restrictions to the theater kill box manager (BCD OPS) for
 10 input into display systems (ADOCS, C2PC, etc.) that can kill box establishment and amplifying
 11 information. The SODO will relay the kill box establishment to appropriate tactical command and
 12 control nodes to include the JSTARS with instructions to assign available assets to investigate the
 13 reported tracks. Diagram below (See Figure C-6) depicts the the JFACC and it's C2 flow for a
 14 planned kill box.

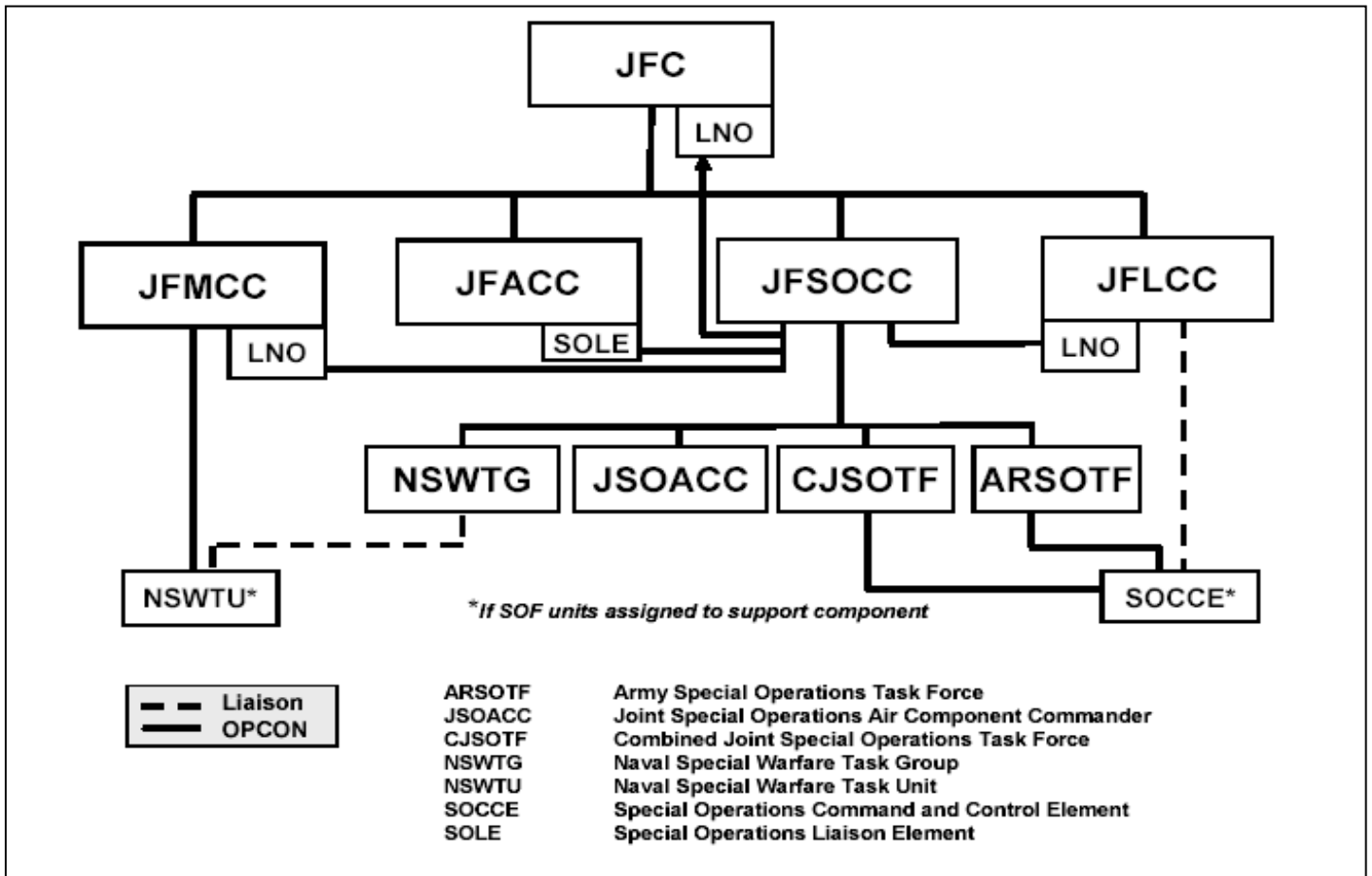


1 **Figure C-7: JFACC's Immediate Kill Box Operational C2 Flow**

2 **7. JFSOCC C2 for Planned Kill Box Operations**

3 a. The JFSOCC will have a joint fires element (JFE) embedded in the JFSOCC joint operations
 4 center (JOC), which serves as the focal point for all joint fires issues, including kill box targeting (See
 5 Figure C-8). The JFSOCC JFE is responsible for kill box coordination and prosecution within its
 6 operating areas and controls SOF inputs to the joint force kill box targeting coordination tools. The
 7 JFSOCC JFE will be the primary node for targeting and deconfliction, but not necessarily the only
 8 JFSOCC node. The JFSOCC can potentially employ its forces as one or more subordinate JSOTFs,
 9 each with its own JFE. These JSOTFs normally operate within a designated JSOA, possibly within
 10 other components' operating areas.

11 b. Subordinate JSOTF JFEs may prosecute identified kill boxes within their JSOAs using
 12 organic assets or, when the JSOA is located within another component's operational area, they may
 13 coordinate directly with that component for any fire support assets allocated or apportioned
 14 specifically for kill box operations. Each JSOTF JFE will determine its own FSCM requirements and
 15 coordinate those requirements through the JFSOCC JFE. In certain directed situations, where a
 16 specific JSOTF may be in support of another component, the JSOTF JFE may coordinate directly
 17 with the supported component's headquarters for FSCM requirements. The JFSOCC will be kept
 18 informed of all applicable coordination.

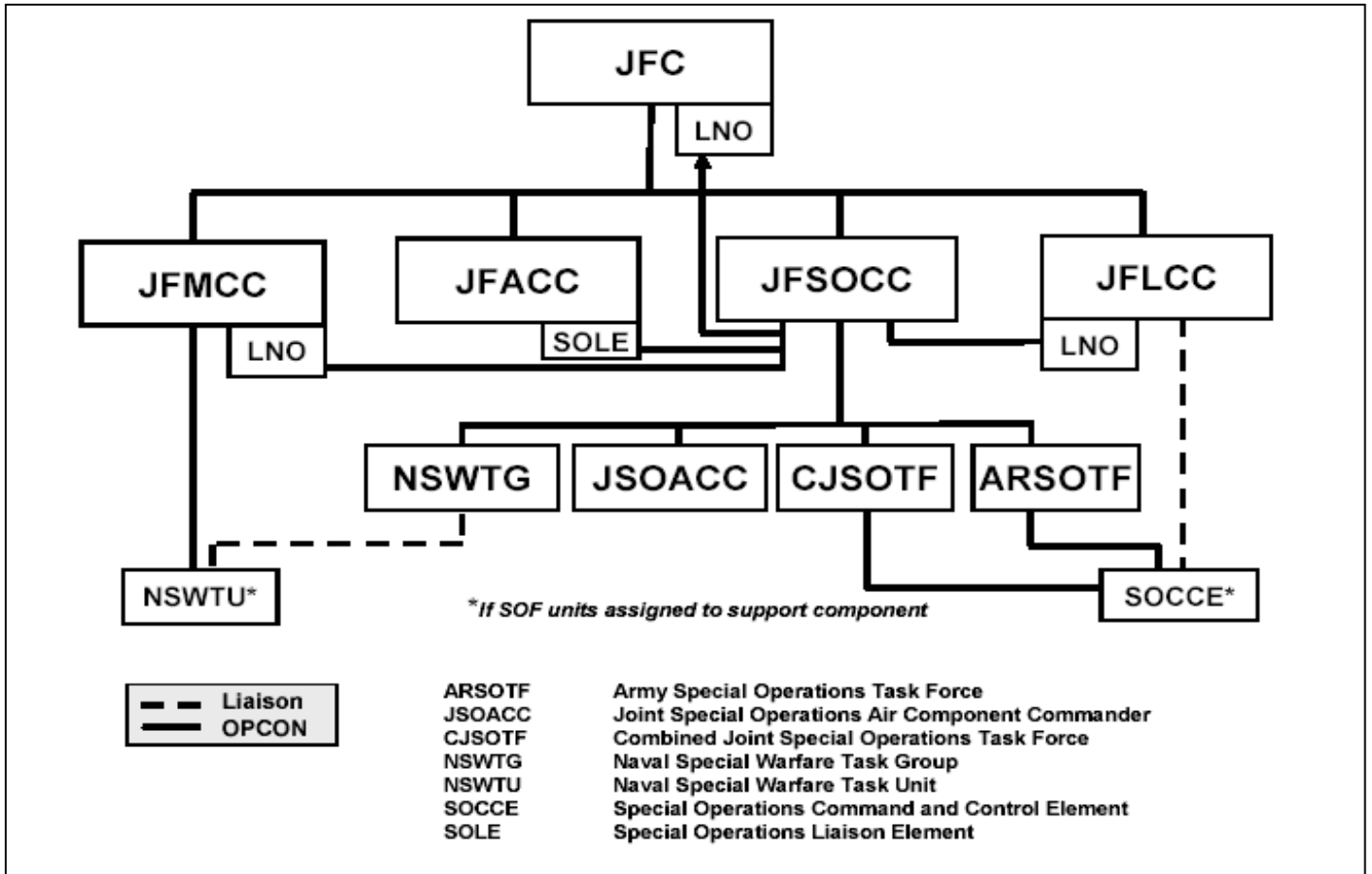


1 **Figure C-8. JFSOC C2 Structure for Kill Box Operations**

2 **8. JFSOCC C2 for Immediate Kill Box Operations**

3 a. For kill boxes prosecuted in support of the JFACC, the JSOTF JFE will coordinate with the
 4 SOLE representative in the JAOC (See Figure C-9). For kill boxes prosecuted in support of the
 5 JFLCC, the JSOTF JFE will coordinate with its deployed SOCCE collocated with the JFLCC JFE or
 6 its subordinate corps-level JFE/fires cell. Coordination with the JFMCC will be through the deployed
 7 Naval Special Warfare Task Unit (NSWTU). The JSOTF may permit subordinate units operating
 8 within another component’s operating area, but not within a JSOA, to coordinate directly with the
 9 SOCCE or NSWTU for kill box reporting and fires support. The reporting process will follow the
 10 procedures established by that component’s JFE/fires cell.

11 b. For kill boxes prosecuted in support of the JFACC, the JSOTF JFE will coordinate with the
 12 SOLE representative in the JAOC (See Figure C-9). For kill boxes prosecuted in support of the
 13 JFLCC, the JSOTF JFE will coordinate with its deployed SOCCE collocated with the JFLCC JFE or
 14 its subordinate corps-level JFE/fires cell. Coordination with the JFMCC will be through the deployed
 15 NSWTU. The JSOTF may permit subordinate units operating within another component’s operating
 16 area, but not within a JSOA, to coordinate directly with the SOCCE or NSWTU for kill box reporting
 17 and fires support. The reporting process will follow the procedures established by that component’s
 18 JFE/Fires Cell



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Figure C-9. JFSOCC C2 and Liaison Integration

Appendix D

THEATER-SPECIFIC KILL BOX PROCEDURES

1. Background

Prior to the publication of this multi-Service tactics, techniques, and procedures (MTTP) manual, there were (and still are) kill box standard operating procedures (SOPs) in regional combatant commands. In some cases, there are significant differences between theaters. This MTTP describes common, generic kill box procedures. The purpose of this appendix is to highlight theater-specific SOPs or references and their differences.

2. Geographic Combatant Command Kill Box Procedures

The following regional combatant commands have kill box SOPs. When operating in these theaters, consult these references or organizations for theater-specific kill box procedures.

a. US Central Command (USCENTCOM) – US Central Command Air Forces (USCENTAF) Kill Box Interdiction/Close Air Support CONOPS (KI/CAS CONOPS), 9 Feb 03 (SECRET Rel GBR and AUS).

b. US Pacific Command (USPACOM) – Republic of Korea (ROK) – US Combined Forces Command Publication 3-1, *Joint Fires – Korea*.

c. US European Command (USEUCOM) – (TBD)

d. US Air Forces in Europe (USAFE) – (TBD)

e. US Southern Command (USSOUTHCOM) – (TBD)

US Special Operations Command (USSOCOM) – USSOCOM does not have a unique SOP for joint fires in each theater. USSOCOM will utilize the kill box procedures developed and exercised by the theater COCOM whether it is the supporting or supported commander.

Appendix E

COMMON GEOGRAPHIC REFERENCE SYSTEM (CGRS)**1. Overview**

a. JP 3-60, *Joint Doctrine for Targeting*, Appendix D, introduces an area reference system. The common geographic reference system (CGRS) is a more detailed explanation of the process involved in creating and using an area reference system, based primarily on USCENTCOM's model used during Operation Iraqi Freedom (OIF).

b. 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. A CGRS has proven highly useful in coordinating and facilitating rapid attacks on time sensitive targets (TSTs). The usefulness of a CGRS is that it enables establishment of appropriate control and coordination measures that can be mutually coordinated, deconflicted, and synchronized via a simple, common, mutually understood, and agreed upon reference system.

2. CGRS Labeling and Identification

a. The grid should be labeled with a simple, common, universal identifier recognizable by each component and their associated C2 and attack assets. Latitude(LAT)/longitude (LONG) references easily define cells since they are common and exist on most military operational graphics and charts. LAT/LONG may allow for easy interpretation using digital displays common in the tactical weapon systems of all components.

b. The steps in creating a CGRS are straight forward (see Figure A-1):

(1) Designate a grid origin/starting point (base LAT/LONG) for the operating area. The origin point should be at the intersection of degree or 30-minute lines of latitude and longitude.

(2) Designate a grid end point (upper right corner LAT/LONG) for the operating area. The end point should also be at the intersection of degree or 30-minute lines of latitude and longitude.

(3) Assign cell dimensions (and subset cell dimensions).

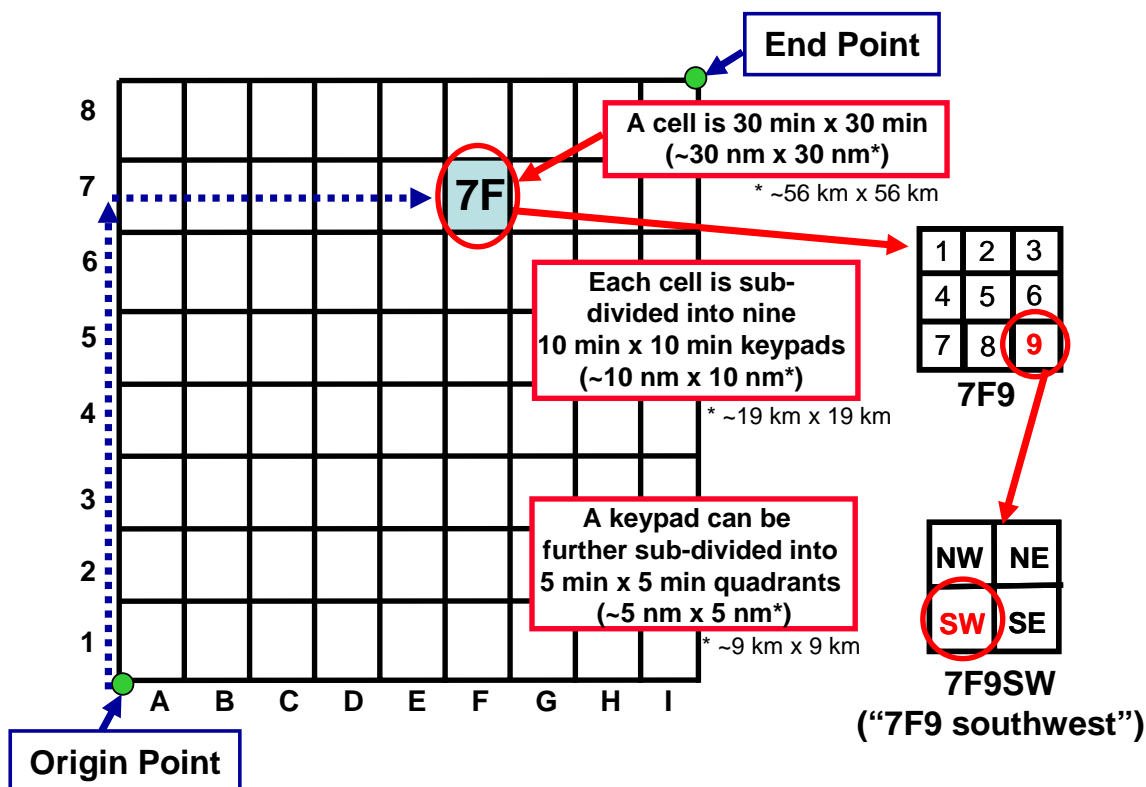
(4) Assign an alphanumeric labeling system to the grid.

(5) The system used with great success in OIF consists of an alphanumeric grid overlay, which creates cells of 30 minutes of latitude by 30 minutes of longitude. In far northern or southern latitudes, consider using 30-minute latitude by 60-minute longitude cells to more closely approximate the dimensions of a square. Cell nomenclature consists of a number that defines the north-south axis and a letter that defines the east-west axis. Example: "Cell 7F" (Figure A-1).

c. The approximately 30 x 30 nautical mile (nm) cells can be further subdivided into nine keypads identified by using the familiar telephone keypad numbering system (numbered from left to

1 right, top to bottom, 1-9). Example: “Keypad 7F9” (Figure A-1). The keypads are 10 minutes of
 2 latitude by 10 minutes of longitude that roughly equates to 10 x 10 nm. In far northern or southern
 3 latitudes, consider using a 10-minute latitude by 20-minute longitude keypad to more closely
 4 approximate the dimensions of a square. The keypads can be further subdivided into approximately 5
 5 x 5 nm quadrants for special applications, and must be clearly labeled. (Example: 7F9SW, Figure A-
 6 1).

7 d. The CGRS should have an operational area-defined origin point. A global grid origin point is
 8 impractical and undesirable.



9 **Note:** The CGRS cell labeling system is “read up, then read right” process
 10 rather than the military grid reference system’s “read right, and then read up.”
 11 Care must be taken to ensure a referenced cell is correctly identified.

12 **Figure E-1. Common Geographic Reference System Example**

13 **3. CGRS Development**

14 a. The JFC should develop the CGRS for the entire operational area including over land and
 15 nearby maritime areas, and mandate use by all components. The CGRS should be developed in
 16 consultation with all affected commanders and agencies. Guidance from the JFC and inputs from
 17 other component commanders are critical to ensuring the reference system fits the needs of the joint
 18 force and, more importantly, is accepted as a mutual tool. Once developed, the JFC should evaluate
 19 the system for its potential to expedite coordination, deconfliction, and synchronization within the

1 operational area. Once approved, the reference system is passed to each component and their
2 associated C2 and attack assets. Instructions for establishing, labeling, and using it should be
3 published in appropriate component orders.

4 b. All agencies must operate on a common map datum to prevent location errors that could
5 result in fratricide or missed targets. Although recent US-produced maps use the World Geodetic
6 System's 84-ellipsoid system, older or foreign maps may use a different reference system that must
7 have a correction factor applied. Most tactical fire support computer systems can automatically apply
8 the correction if the map datum information is entered during computer set up.

9 c. Multiple reference systems within an operational area will cause confusion and must be
10 avoided. Care must be taken to ensure that proper deconfliction is conducted on the fringes where
11 two separate operational areas meet to ensure overlap does not occur. A JFC may designate specific
12 cells as inactive (non-applicable) for his operational area grid to aid in deconfliction should an
13 overlap of CGRSs occur.

14 d. A CGRS origin point or orientation should not be changed during combat operations unless
15 the adverse impact of a compromised grid system outweighs the risk of fratricide caused by potential
16 cell confusion. Keeping grid origin locations secret and minimizing/eliminating unsecured
17 transmissions of cell targeting locations will aid in keeping a grid system secure. Even if a CGRS is
18 suspected to be compromised, disciplined use of secure communications can mitigate any potential
19 advantage to an enemy.

20 **4. CGRS Applications**

21 a. The CGRS cells themselves are not FSCMs, ACMs, or maneuver control measures (MCMs),
22 but simply a common reference system that complements joint fire support and/or airspace control
23 systems and measures.

24 b. Control and coordination measure boundaries can be delineated by CGRS cells, keypads, and
25 quadrants. The CGRS is a two-dimensional construct, but FSCM and ACM areas delineated by
26 CGRS cells may have altitudes attached to them (such as in a kill box).

27 c. The CGRS can be a tool for rapid deconfliction during non-contiguous battlefield operations
28 (such as special operations forces [SOF] operating behind enemy lines) and may even be employed as
29 a primary method to describe a contiguous battlefield.

30 (1) The CGRS is flexible enough to be used for a variety of purposes, including being used to
31 identify littoral maritime warfare areas for antisubmarine warfare and antisurface warfare forces.

32 d. The CGRS is not:

33 (1) A replacement for the world geographic reference system, or the military grid reference
34 system based upon the universal transverse mercator and universal polar stereographic grids.

35 (2) Used to specify grid coordinates for target location or for platform/weapon targeting.

36 e. If a target is acquired and areas of intended attack are designated, they can be rapidly
37 correlated to a specific cell location. The identifying component can then establish appropriate
38 control and coordinating measures, (such as FSCMs and/or ACMs), as authorized, to expedite and
39 deconflict attacks with other components (such as designating a cell as a kill box, etc.). Some
40 situations warrant simultaneous joint engagements within a single cell area. FSCMs and/or ACMs
41 (such as informal airspace coordination areas with altitude separation) constructed appropriately to
42 allow for rapid coordination and deconfliction of combined arms attacks.

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1 f. The CGRS is not optimized for defining:

2 (1) Air pictures (the “bullseye” system is tried and proven).

3 (2) Lines or boundaries that are not grid-friendly (i.e., 45 degree lines, etc.).

4 (3) Natural terrain features. CGRS may be combined with ground feature references for
5 easier use, as demonstrated in the following examples:

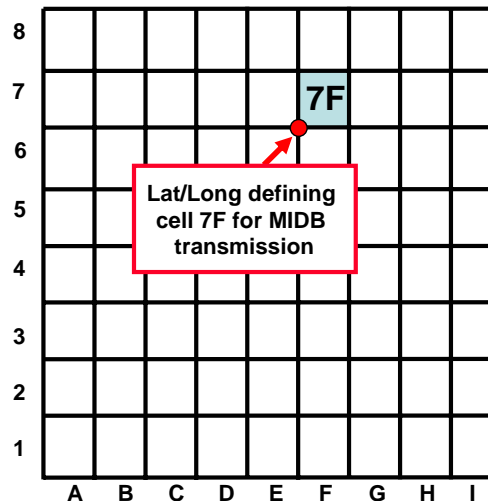
6 (a) “Cleared to engage targets east side of river in cell 2C.”

7 (b) “Remain west of north-south ridge in cells 1 and 2A.”

8 **Note:** Geographical references are an important method of rapidly communicating
9 location information and cannot be completely replaced by a CGRS.

10 5. Modernized Integrated Database (MIDB) Integration

11 The CGRS must be built in the “facilities” portion of the local MIDB as a point target that
12 represents a 30 x 30-minute area. As a technique, the lower left corner of a 30 x 30-minute cell could
13 identify the cell (Figure A-2). Multiple “O” suffixes could then be built to identify subset cells
14 (keypads or quadrants). Once the CGRS is built into the local MIDB, it can be transmitted to other
15 components to be used for target development.



16 Figure E-2. MIDB LAT/LONG Example

1

REFERENCES

2 **Joint Publications**

3 JP 0-2. Unified Action Armed Forces (UNAAF), 10 July 2001.

4 JP 1. Joint Warfare of the Armed Forces of the United States, 14 November 2000

5 JP 1-02. DOD Dictionary of Military and Associated Terms, 9 June 2004

6 JP 2-01. Joint and National Intelligence Support to Military Operations, 14 January 2002

7 JP 3-0. Doctrine for Joint Operations, 18 May 2004

8 JP 3-02. Joint Doctrine for Amphibious Operations, 19 September 2001

9 JP 3-09. Doctrine for Joint Fire Support, 12 May 1998

10 JP 3-09.3. Joint Tactics, Techniques, and Procedures for Close Air Support, 3 September 2003

11 JP 3-60. Joint Doctrine for Targeting, 17 January 2002

12 **Army**

13 FM 101-5-1, Operational Terms and Graphics, 30 September 1997

14 **Marine Corps**

15 MCWP 3-16. Fire Support Coordination in the Ground Combat Element

16 MAWTS-1. Forward Air Controller (Airborne) [FAC(A)] Handbook, 1 January 2004

17 **Navy**

18 NWP 3-56 (Rev. A). Composite Warfare Commander's Manual

1

GLOSSARY

2

PART I – ABBREVIATIONS AND ACRONYMS

3

A

4	A2C2	Army airspace command and control
5	AADC	area air defense commander
6	ACA	airspace coordination area; airspace control authority
7	ACE	air combat element; analysis and control element; airborne control element
8	ACM	airspace control measure
9	ACO	airspace control order
10	ADA	air defense artillery
11	ADC	air defense commander
12	ADCON	administrative control
13	ADOCS	automated deep operations coordination system
14	AFATDS	Advanced Field Artillery Tactical Data System
15	AFDC	Air Force Doctrine Center
16	AFI	Air Force Instruction
17	AFTTP(I)	Air Force Tactics, Techniques, and Procedures (Interservice)
18	ALO	air liaison officer
19	ALSA	Air Land Sea Application
20	AO	area of operations
21	AOA	Amphibious Objective Area
22	AOR	area of responsibility
23	ARFOR	Army forces
24	ARSOTF	Army special operations task force
25	ASOC	air support operations center
26	ATO	air tasking order
27	AWACS	Airborne Warning and Control System (Boeing E-3A Sentry)
28	B	
29	BCD	battlefield coordination detachment
30	BCL	battlefield coordination line

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1	BDA	battle damage assessment
2	BHA	bomb hit assessment
3	C	
4	C2	command and control
5	CAS	close air support
6	CCO	Chief of Combat Operations
7	CD	collateral damage
8	CDC	Combat Division Center
9	CDE	collateral damage estimate
10	CFL	coordinated fire line
11	CGRS	common geographic reference system
12	CJSOTF	combined joint special operations task force
13	CO	commanding officer
14	COC	combat operations center
15	COP	common operational picture
16	CSSE	combat service support element
17	D	
18	DASC	direct air support center
19	DOCC	deep operations coordination cell
20	DOTML-PF	Doctrine, Organization, Training, Materiel, Leadership, Personnel, and
21		Facilities
22	DTG	date time group
23	E	
24	EA	establishing authority
25	F	
26	FAC(A)	forward air controller (airborne)
27	FAIO	field artillery intelligence officer
28	FB	forward boundary
29	FDC	fire direction center
30	FEBA	forward edge of the battle area
31	FFCC	force fires coordination center
32	FLOT	forward line of own troops
33	FM	field manual

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1	FRAGO	fragmentary order
2	FSCC	fire support coordination center
3	FSCL	fire support coordination line
4	FSCM	fire support coordinating measures
5	FSCOORD	fire support coordinator
6	FSE	fire support element
7	G	
8	G3	operations staff officer
9	GCE	ground combat element
10	H	
11	HPT	high priority target
12	I	
13	IAW	in accordance with
14	IPB	intelligence preparation of the battlespace
15	ISR	intelligence, surveillance, and reconnaissance
16	ISR Division	ISR Division
17	J	
18	JAOC	joint air operations center
19	JFACC	joint force air component commander
20	JFC	joint force commander
21	JFE	joint fires element
22	JFLCC	joint force land component commander
23	JFMCC	joint force maritime component commander
24	JFSOCC	joint force special operations component commander
25	JOA	joint operations area
26	JOC	joint operations center
27	JSOA	joint special operations area
28	JSOACC	joint special operations air component commander
29	JSOTF	joint special operations task force
30	JSTARS	Joint Surveillance Target Attack Radar System
31	K	
32	KBC	kill box coordinator

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1 **L**

2 LANTIRN Low-Altitude Navigation and Targeting Infrared, Night
3 LNO liaison officer

4 **M**

5 MAAP master air attack plan
6 MAGTF Marine air-ground task force
7 MARDIV Marine division
8 MARFOR Marine Corps forces
9 MCCDC US Marine Corps Combat Development Command
10 MCM maneuver control measures
11 MCPDS Marine Corps Publication Distribution System
12 MCRP Marine Corps reference publication
13 MDMP military decision-making process
14 MEB Marine expeditionary brigade
15 MEF Marine expeditionary force
16 METT-T mission, enemy, terrain and weather, troops and support available-time
17 available
18 METT-TC mission, enemy, terrain and weather, troops and support available-time
19 available, civil considerations
20 MIDB Modernized Integrated Database
21 MILSTRIP Military Standard Requisition and Issue Procedure
22 MISREP mission report
23 MOC Maritime Operating Center
24 MSC major subordinate command
25 MTTP multi-Service tactics, techniques, and procedures
26 MSL mean sea level

27 **N**

28 NAVSUP Navy Supplement Publication
29 NFA no-fire area
30 NSFS naval surface fire support
31 NSL no-strike list
32 NSWTG naval special warfare task group
33 NSWTU naval special warfare task unit
34 NTTP Navy tactics, techniques, and procedures

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1	NWDC	Navy Warfare Development Command
2	O	
3	ODA	operational detachment-Alpha
4	OEF	Operation ENDURING FREEDOM
5	OIF	Operation IRAQI FREEDOM
6	P	
7	PID	positive identification
8	R	
9	RCT	Regimental Combat Team
10	RMC	rescue mission coordinator
11	ROE	rules of engagement
12	ROK	Republic of Korea
13	ROZ	restricted operating zone
14	RTB	return(ing) to base
15	RTL	restricted target list
16	S	
17	SACC	supporting arms coordination center
18	SADO	search and rescue duty officer
19	SCAR	strike coordination and reconnaissance
20	SCUD	surface-to-surface missile system
21	SIDO	senior intelligence duty officer
22	SMC	subordinate maritime commander
23	SOCCE	special operations command and control element
24	SODO	senior operations duty officer
25	SOF	special operations forces
26	SOLE	special operations liaison element
27	SOP	standard operating procedure
28	SPINS	special instructions
29	SWC	strike warfare commander
30	T	
31	TACC	tactical air command center
32	TACP	tactical air control party

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1	TAI	targeted area of interest
2	TBMCS	theater battle management core system
3	TET	target effects team
4	TOT	time on target
5	TRADOC	US Army Training and Doctrine Command
6	TST	time sensitive target
7	U	
8	UAV	unmanned aerial vehicle
9	USCENTAF	US Central Command Air Forces
10	USCENTCOM	US Central Command
11	USEUCOM	US European Command
12	USPACOM	US Pacific Command
13	USSOCOM	US Special Operations Command
14	USSOUTHCOM	US Southern Command

15 **V**

16	VUL	vulnerability
17		

18 **PART II – TERMS AND DEFINITIONS**

- 19 **Airspace Coordination Area (ACA)** - A three-dimensional block of airspace in a target area,
20 established by the appropriate ground commander, in which friendly aircraft
21 are reasonably safe from friendly surface fires. The airspace coordination
22 area may be formal or informal. (JP 3-09.3)
- 23 **Airspace Control Measures (ACM)** – Rules, mechanisms, and directions governed by joint doctrine
24 and defined by the airspace control plan which control the use of airspace of
25 specified dimensions. (FM 101-5-1)
- 26 **Airspace Control Order (ACO)** – An order implementing the airspace control plan that provides the
27 details of the approved requests for airspace control measures. It is published
28 either as part of the air tasking order or as a separate document. (Army) - It
29 includes temporary airspace control measures and designates which
30 organization is the controlling authority for each. (JP 1-02)
- 31 **Air Defense Artillery (ADA)** – Weapons and equipment for actively combating air targets from the
32 ground. (JP 1-02)
- 33 **Air Liaison Officer (ALO)** – An officer (aviator/pilot) attached to a ground unit who functions as the
34 primary advisor to the ground commander on air operation matters. (Army) -
35 The senior Air Force officer at each tactical air control party who provides
36 advice on the capabilities, limitations, and employment of fixed wing aircraft

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1 and coordinates close air support missions with the fire support element. (JP
2 1-02)

3 **Air Support Operations Center (ASOC)** – The principal air control agency of the theater air control
4 system responsible for the direction and control of air operations directly
5 supporting the ground combat element. It processes and coordinates requests
6 for immediate air support and coordinates air missions requiring integration
7 with other supporting arms and ground forces. It normally collocates with the
8 Army tactical headquarters senior fire support coordination center within the
9 ground combat element. (JP 1-02)

10 **Air Tasking Order (ATO)** – A method used to task and disseminate to components, subordinate
11 units, and command and control agencies projected sorties, capabilities
12 and/or forces to targets and specific missions. Normally provides specific
13 instructions to include call signs, targets, controlling agencies, etc., as well as
14 general instructions. (JP 1-02)

15 **Amphibious Objective Area (AOA)** – A geographical area (delineated for command and control
16 purposes in the order of initiating the amphibious operation) within which is
17 located the objective(s) to be secured by the amphibious force. This area
18 must be of sufficient size to ensure accomplishment of the amphibious
19 force's mission and must provide sufficient area for conducting necessary
20 sea, air, and land operations. (JP 3-02)

21 **Area Air Defense Commander (AADC)** – Within a unified command, subordinate unified
22 command, or joint task force, the commander will assign overall
23 responsibility for air defense to a single commander. Normally, this will be
24 the component commander with the preponderance of air defense capability
25 and the command, control, and communications capability to plan and
26 execute integrated air defense operations. Representation from the other
27 components involved will be provided, as appropriate, to the area air defense
28 commander's headquarters. (JP 1-02)

29 **Area of Operations (AO)** – An operational area defined by the joint force commander for land and
30 naval forces. Areas of operation do not typically encompass the entire
31 operational area of the joint force commander, but should be large enough for
32 component commanders to accomplish their missions and protect their
33 forces. (JP 1-02)

34 **Battle Damage Assessment (BDA)** – The timely and accurate estimate of damage resulting from the
35 application of military force, either lethal or non-lethal, against a
36 predetermined objective. Battle damage assessment can be applied to the
37 employment of all types of weapon systems (air, ground, naval, and special
38 forces weapon systems) throughout the range of military operations. Battle
39 damage assessment is primarily an intelligence responsibility with required
40 inputs and coordination from the operators. Battle damage assessment is
41 composed of physical damage assessment, functional damage assessment,
42 and target system assessment. (JP 1-02)

43 **Battlespace** - The environment, factors, and conditions that must be understood to successfully apply
44 combat power, protect the force, or complete the mission. This includes the
45 air, land, sea, space, and the included enemy and friendly forces; facilities;
46 weather; terrain; the electromagnetic spectrum; and the information
47 environment within the operational areas and areas of interest. (JP 1-02)

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- 1 **Battlefield Coordination Detachment (BCD)** – An Army liaison provided by the Army component
2 or force commander to the air operations center (AOC) and/or to the
3 component designated by the joint force commander to plan, coordinate, and
4 deconflict air operations. The battlefield coordination detachment processes
5 Army requests for air support, monitors and interprets the land battle
6 situation for the AOC, and provides the necessary interface for exchange of
7 current intelligence and operational data. (JP 1-02)
- 8 **Battlefield Coordination Line (BCL)** - A battlefield coordination line is a fire support coordinating
9 measure, established based on METT-T, which facilitates the expeditious
10 attack of surface targets of opportunity between the measure and the FSCL.
11 When established, the primary purpose is to allow MAGTF aviation to attack
12 surface targets without approval of a GCE commander in whose area the
13 targets may be located. To facilitate air-delivered fires and deconflict air and
14 surface fires, an airspace coordination area (ACA) will always overlie the
15 area between the BCL and the FSCL. Ground commanders may strike any
16 targets beyond the BCL and short of the FSCL with artillery and/or rockets
17 without coordination as long as those fires deconflict with the established
18 ACA overhead. This includes targets in an adjacent ground commander's
19 zone that falls within the BCL-FSCL area. The BCL is an exclusive Marine
20 Corps FSCM, similar to an FSCL, which facilitates the expeditious attack of
21 targets with surface indirect fires and aviation fires between this measure and
22 the FSCL. (MCWP 3-16)
- 23 **Boundary** - A line that delineates surface areas for the purpose of facilitating coordination and
24 deconfliction of operations between adjacent units, formations, or areas. (JP
25 3-0)
- 26 **Close Air Support (CAS)** - Air action by fixed-and-rotary-wing aircraft against hostile targets that
27 are in close proximity to friendly forces and that require detailed integration
28 of each air mission with the fire and movement of those forces. (JP 3-09)
- 29 **Collateral Damage (CD)** – Unintentional or incidental injury or damage to persons or objects that
30 would not be lawful military targets in the circumstances ruling at the time.
31 Such damage is not unlawful so long as it is not excessive in light of the
32 overall military advantage anticipated from the attack. (JP 1-02) The
33 President, SECDEF, CJCS, JFC, or Commanders may issue directives
34 concerning CD in both how it is estimated and what additional approval, if
35 any, is required based on the level of CD determined by the CDE process.
36 (Refer to CJCSM 3160.01, *Joint Methodology for Estimating Collateral*
37 *Damage and Casualties for Conventional Weapons: Precision, Unguided, and*
38 *Cluster(S)*, and the theater CDE Methodology for applicable guidance.)
- 39 **Command and Control (C2)** – The exercise of authority and direction by a properly designated
40 commander over assigned and attached forces in the accomplishment of the
41 mission. Command and control functions are performed through an
42 arrangement of personnel, equipment, communications, facilities, and
43 procedures employed by a commander in planning, directing, coordinating,
44 and controlling forces and operations in the accomplishment of the mission.
45 (JP 1-02)
- 46 **Coordinated Fire Line (CFL)** - The coordinated fire line is a line beyond which conventional,
47 direct, and indirect surface fire support means may fire at any time within the
48 boundaries of the establishing headquarters without additional coordination.

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1 The purpose of the CFL is to expedite the surface-to-surface attack of targets
2 beyond the CFL without coordination with the ground commander in whose
3 area the targets are located. (JP 3-09)

4 **Data** - Representation of facts, concepts, or instructions in a formalized manner suitable for
5 communication, interpretation, or processing by humans or by automatic
6 means. Any representations, such as characters or analog quantities, to which
7 meaning is or might be assigned. (JP 1-02)

8 **Date Time Group (DTG)** – The date and time, expressed in digits and time zone suffix, at which the
9 message was prepared for transmission. (Expressed as six digits followed by
10 the time zone suffix; first pair of digits denotes the date, second pair the
11 hours, third pair the minutes, followed by a three-letter month abbreviation
12 and two-digit year abbreviation.) (JP 1-02)

13 **Direct Air Support Center (DASC)** – The principal air control agency of the US Marine air
14 command and control system responsible for the direction and control of air
15 operations directly supporting the ground combat element. It processes and
16 coordinates requests for immediate air support and coordinates air missions
17 requiring integration with ground forces and other supporting arms. It
18 normally collocates with the senior fire support coordination center within
19 the ground combat element and is subordinate to the tactical air command
20 center. (JP 1-02)

21 **Fire Support Coordinating Measures (FSCM)** - A measure employed by land or amphibious
22 commanders to facilitate the rapid engagement of targets and simultaneously
23 provide safeguards for friendly forces. (JP 3-09.3)

24 **Fire Support Coordination Line (FSCL)** - A fire support coordinating measure that is established
25 and adjusted by appropriate land or amphibious force commanders within
26 their boundaries in consultation with superior, subordinate, supporting, and
27 affected commanders. Fire support coordination lines facilitate the
28 expeditious attack of surface targets of opportunity beyond the coordinating
29 measure. An FSCL does not divide an area of operations by defining a
30 boundary between close and deep operations or a zone for close air support.
31 The FSCL applies to all fires of air, land, and sea-based weapons systems
32 using any type of ammunition. Forces attacking targets beyond an FSCL
33 must inform all affected commanders in sufficient time to allow necessary
34 reaction to avoid fratricide. Supporting elements attacking targets beyond the
35 FSCL must ensure that the attack will not produce adverse attacks on, or to
36 the rear of, the line. Short of an FSCL, all air-to-ground and surface-to-
37 surface attack operations are controlled by the appropriate land or
38 amphibious force commander. The FSCL should follow well-defined terrain
39 features. Coordination of attacks beyond the FSCL is especially critical to
40 commanders of air, land, and special operations forces. In exceptional
41 circumstances, the inability to conduct this coordination will not preclude the
42 attack of targets beyond the FSCL. However, failure to do so may increase
43 the risk of fratricide and could waste limited resources. (JP 3-0)

44 **Fire Support Element (FSE)** – That portion of the force tactical operations center at every echelon
45 above company or troop (to corps) that is responsible for targeting
46 coordination and for integrating fires delivered on surface targets by fire-
47 support means under the control, or in support, of the force. (JP 1-02)

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- 1 **Forward Air Controller (Airborne)** – A specifically trained and qualified aviation officer who
2 exercises control from the air of aircraft engaged in close air support of
3 ground troops. The forward air controller (airborne) is normally an airborne
4 extension of the tactical air control party. (JP 1-02)
- 5 **Forward Edge of the Battle Area (FEBA)** - The foremost limits of a series of areas in which ground
6 combat units are deployed, excluding the areas in which the covering or
7 screening forces are operating, designated to coordinate fire support, the
8 positioning of forces, or the maneuver of units. (JP 1-02)
- 9 **Forward Line of Own Troops (FLOT)** - A line that indicates the most forward positions of friendly
10 forces in any kind of military operation at a specific time. The forward line of
11 own troops (FLOT) normally identifies the forward location of covering and
12 screening forces. The FLOT may be at, beyond, or short of the forward edge
13 of the battle area. An enemy FLOT indicates the forward-most position of
14 hostile forces.
- 15 **Fragmentary Order (FRAGO)** – An abbreviated form of an operation order (verbal, written or
16 digital) usually issued on a day-to-day basis that eliminates the need for
17 restating information contained in a basic operation order. It may be issued in
18 sections. It is issued after an operation order to change or modify that order
19 or to execute a branch or sequel to that order. (JP 1-02)
- 20 **Ground Combat Element (GCE)** – The core element of a Marine air-ground task force (MAGTF)
21 that is task-organized to conduct ground operations. It is usually constructed
22 around an infantry organization but can vary in size from a small ground unit
23 of any type, to one or more Marine divisions that can be independently
24 maneuvered under the direction of the MAGTF commander. The ground
25 combat element itself is not a formal command. (JP 1-02)
- 26 **Integration** - The arrangement of military forces and their actions to create a force that operates by
27 engaging as a whole. (JP 0-2)
- 28 **Intelligence Preparation of the Battlespace (IPB)** – An analytical methodology employed to reduce
29 uncertainties concerning the enemy, environment, and terrain for all types of
30 operations. Intelligence preparation of the battlespace builds an extensive
31 database for each potential area in which a unit may be required to operate.
32 The database is then analyzed in detail to determine the impact of the enemy,
33 environment, and terrain on operations and presents it in graphic form.
34 Intelligence preparation of the battlespace is a continuing process. (JP 1-02)
- 35 **Joint Air Operations Center (JAOC)** – A jointly staffed facility established for planning, directing,
36 and executing joint air operations in support of the joint force commander's
37 operation or campaign objectives. (JP 1-02)
- 38 **Joint Fires** – Fires produced during the employment of forces from two or more components in
39 coordinated action toward a common objective. (JP 3-09)
- 40 **Joint Fire Support** - Joint fires that assist air, land, maritime, amphibious, and special operations
41 forces to move, maneuver, and control territory, populations, airspace, and
42 key waters. (JP 3-0)
- 43 **Joint Force Air Component Commander (JFACC)** – The commander within a unified command,
44 subordinate unified command, or joint task force responsible to the
45 establishing commander for the recommendations on the proper employment
46 of assigned, attached, and/or made available for tasking air forces; planning

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1 and coordinating air operations; or accomplishing such operational missions
2 as may be assigned. The joint force air component commander is given the
3 authority necessary to accomplish missions and tasks assigned by the
4 establishing commander. (JP 3-0)

5 **Joint Force Commander (JFC)** – A general term applied to a combatant commander subunified
6 commander, or joint task force commander authorized to exercise combatant
7 command (command authority) or operational control over a joint force. (JP
8 0-2)

9 **Joint Force Land Component Commander (JFLCC)** – The commander within a unified
10 command, subordinate unified command, or joint task force responsible to
11 the establishing commander for making recommendation on the proper
12 employment of assigned, attached, and/or made available for tasking land
13 forces and assets; planning and coordinating land operations; or
14 accomplishing such operational missions as may be assigned. The joint force
15 land component commander is given the authority necessary to accomplish
16 missions and tasks assigned by the establishing commander. (JP 3-0)

17 **Joint Force Maritime Component Commander (JFMCC)** – The commander within a unified
18 command, subordinate unified command, or joint task force responsible to
19 the establishing commander for making recommendation on the proper
20 employment of assigned, attached, and/or made available for tasking
21 maritime forces and assets; planning and coordinating land operations; or
22 accomplishing such operational missions as may be assigned. The joint force
23 maritime component commander is given the authority necessary to
24 accomplish missions and tasks assigned by the establishing commander. (JP
25 3-0)

26 **Joint Force Special Operations Component Commander (JFSOCC)** – The commander within a
27 unified command, subordinate unified command, or joint task force
28 responsible to the establishing commander for making recommendation on
29 the proper employment of assigned, attached, and/or made available for
30 tasking special operations forces and assets; planning and coordinating land
31 operations; or accomplishing such operational missions as may be assigned.
32 The joint force special operations component commander is given the
33 authority necessary to accomplish missions and tasks assigned by the
34 establishing commander. (JP 3-0)

35 **Joint Operations Area (JOA)** - An area of land, sea, and airspace, defined by a geographic
36 combatant commander or subordinate unified commander, in which a joint
37 force commander (normally a joint task force commander) conducts military
38 operations to accomplish a specific mission. Joint operations areas are
39 particularly useful when operations are limited in scope and geographic area
40 or when operations are to be conducted on the boundaries between theaters.
41 (JP 0-2)

42 **Joint Special Operations Area (JSOA)** – A restricted area of land, sea, and airspace assigned by a
43 joint force commander to the commander of a joint special operations force
44 to conduct special operations activities. The commander of joint special
45 operations forces may further assign a specific area or sector within the joint
46 special operations area to a subordinate commander for mission execution.
47 The scope and duration of the special operations forces' mission, friendly and
48 hostile situation, and politico-military considerations all influence the

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1 number, composition, and sequencing of special operations forces deployed
2 into a joint special operations area. It may be limited in size to accommodate
3 a discrete direct action mission or may be extensive enough to allow a
4 continuing broad range of unconventional warfare operations. (JP 1-02)

5 **Joint Special Operations Task Force (JSOTF)** – A joint task force composed of special operations
6 units from more than one Service, formed to carry out a specific special
7 operation or prosecute special operations in support of a theater campaign or
8 other operations. The joint special operations task force may have
9 conventional non-special operations units assigned or attached to support the
10 conduct of specific missions. (JP 1-02)

11 **Kill Box** - A three-dimensional area reference that enables timely, effective coordination and control
12 and facilitates rapid attacks. (JP 3-60)

13 **Linear and Non-linear Battlefield** – “The full dimensional joint campaign is in major respects
14 ‘nonlinear.’ That is, the dominant effects of air, sea, space, and special
15 operations may be felt more or less independently of the front line of ground
16 troops. The impact of these operations on land battles, interacting with the
17 modern dynamics of land combat itself, helps obtain the required fluidity,
18 breadth, and depth of operations. In the same way, land operations can
19 provide or protect critical bases for air, land, sea, and space operations and
20 enable these operations to be supported and extended throughout the theater”
21 (JP 1)

22 **Littoral Area** – The littoral area contains two parts. First is the seaward area from the open ocean to
23 the shore, which must be controlled to support operations ashore. Second is
24 the landward area inland from the shore that can be supported and defended
25 directly from the sea. (JDE)

26 **Marine Expeditionary Brigade (MEB)** – A Marine air-ground task force that is constructed around
27 a reinforced infantry regiment, a composite Marine aircraft group, and a
28 brigade service support group. The Marine expeditionary brigade (MEB),
29 commanded by a general officer, is task-organized to meet the requirements
30 of a specific situation. It can function as part of a joint task force, as the lead
31 echelon of the Marine expeditionary force (MEF), or alone. It varies in size
32 and composition, and is larger than a Marine expeditionary unit but smaller
33 than a MEF. The MEB is capable of conducting missions across the full
34 range of military operations. (JP 1-02)

35 **Marine Expeditionary Force (MEF)** – The largest Marine air-ground task force (MAGTF) and the
36 Marine Corps principal warfighting organization, particularly for larger
37 crises or contingencies. It is task-organized around a permanent command
38 element and normally contains one or more Marine divisions, Marine aircraft
39 wings, and Marine force service support groups. The Marine expeditionary
40 force is capable of missions across the range of military operations, including
41 amphibious assault and sustained operations ashore in any environment. It
42 can operate from a sea base, a land base, or both. (JP 1-02)

43 **Master Air Attack Plan (MAAP)** – A plan that contains key information that forms the foundation
44 of the joint air tasking order. Sometimes referred to as the air employment
45 plan or joint air tasking order shell. Information that may be found in the plan
46 includes joint force commander guidance, joint force air component
47 commander guidance, support plans, component requests, target update

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- 1 requests, availability of capabilities and forces, target information from target
2 lists, aircraft allocation, etc. (JP 1-02)
- 3 **Naval Surface Fire Support (NSFS)** – Fire provided by Navy surface gun and missile systems in
4 support of a unit or units. (JP 1-02)
- 5 **No-Fire Area (NFA)** - An area designated by the appropriate commander into which fires or their
6 effects are prohibited. (JP 1-02)
- 7 **No-Strike List (NSL)** - A list of geographic areas, complexes, or installations not planned for capture
8 or destruction. Attacking these may violate laws of armed conflict or
9 interfere with friendly relations with indigenous personnel or governments.
10 (JP 1-02)
- 11 **Operational Area** – An overarching term encompassing more descriptive terms for geographic areas
12 in which military operations are conducted. Operational areas include, but
13 are not limited to, such descriptors as area of responsibility, theater of war,
14 theater of operations, joint operations area, amphibious objective area, joint
15 special operations area, and area of operations. (JP 3-0)
- 16 **Positive Identification (PID)** – Identification criteria established in the ROE that requires a potential
17 target to be identified as a valid target prior to engagement. What constitutes
18 PID may vary from operation to operation because the joint force
19 commander and subordinate commanders will establish requirements for PID
20 prior to combat operations in order to achieve the required confidence of
21 target identification for engagement. PID has been previously defined as a
22 “reasonable certainty” the target is a valid target. This will often be
23 circumstance dependent, but it does not mean achieving 100% mathematical
24 certainty. What constitutes PID and how PID may be obtained should be
25 detailed in the ROE. Threat permitting, theater SPINS should be written to
26 allow aircraft performing the KBC/SCAR mission to descend to altitudes that
27 enable obtaining PID. (JP ???)
- 28 **Restricted Operating Zone (ROZ)** – A volume of airspace of defined dimensions designated for a
29 specific operational mission. Entry into that zone is authorized only by the
30 originating headquarters. (FM 101-5-1)
- 31 **Restricted Target List (RTL)** - A list of restricted targets nominated by elements of the joint force
32 and approved by the joint force commander. This list also includes restricted
33 targets directed by higher authorities. (JP 1-02) There may be targets within
34 a kill box that have specific restrictions imposed upon them. Actions that
35 exceed specified restrictions are prohibited until coordinated and approved
36 by the establishing headquarters. The restricted targets, as well as the
37 specific restrictions placed on those targets and the approval authority to
38 strike a particular target are maintained on the RTL. (JP 1-02)
- 39 **Rules of Engagement (ROE)** – Directives issued by competent military authority that delineate the
40 circumstances and limitations under which US forces will initiate and/or
41 continue combat engagement with other forces encountered. (JP 1-02)
- 42 **Special Operations Command and Control Element (SOCCE)** – A special operations command
43 and control element (SOCCE) that is the focal point for the synchronization
44 of special operations forces activities with conventional forces operations. It
45 performs command and control or liaison functions according to mission
46 requirements and as directed by the establishing special operations forces

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- 1 commander. Its level of authority and responsibility may vary widely. It
2 normally collocates with the command post of the supported force. The
3 SOCCE can also receive special operations forces operational, intelligence,
4 and target acquisition reports directly from deployed special operations
5 elements and provide them to the supported component headquarters. The
6 SOCCE remains under the operational control of the joint force special
7 operations component commander or commander, joint special operations
8 task force. (JP 1-02)
- 9 **Special Operations Forces (SOF)** – Those Active and Reserve Component forces of the Military
10 Services designated by the Secretary of Defense and specifically organized,
11 trained, and equipped to conduct and support special operations. (JP 1-02)
- 12 **Special Operations Liaison Element (SOLE)** – A special operations liaison team provided by the
13 joint force special operations component commander to the joint force air
14 component commander (if designated), or appropriate Service component air
15 command and control organization, to coordinate, deconflict, and integrate
16 special operations air, surface, and subsurface operations with conventional
17 air operations. (JP 1-02)
- 18 **Supported Commander** – In the context of a support command relationship, the commander who
19 receives assistance from another commander’s force or capabilities, and who
20 is responsible for ensuring that the supporting commander understands the
21 assistance required. (JP 3-0)
- 22 **Supporting Arms Coordination Center (SACC)** – A single location on board an amphibious
23 command ship in which all communication facilities incident to the
24 coordination of fire support of the artillery, air, and naval gunfire are
25 centralized. This is the naval counterpart to the fire support coordination
26 center utilized by the landing force. (JP 1-02)
- 27 **Supporting Commander** – In the context of a support command relationship, the commander who
28 aids, protects, complements, or sustains another commander’s force, and who
29 is responsible for providing the assistance required by the supported
30 commander. (JP 3-0)
- 31 **Synchronization** – The arrangement of military actions in time, space, and purpose to produce
32 maximum relative combat power at a decisive place and time. (JP 2-0)
- 33 **Tactical Air Command Center (TACC)** – The principal US Marine Corps air command and control
34 agency from which air operations and air defense warning functions are
35 directed. It is the senior agency of the US Marine air command and control
36 system that serves as the operational command post of the aviation combat
37 element commander. It provides the facility from which the aviation combat
38 element commander and his battle staff plan, supervise, coordinate, and
39 execute all current and future air operations in support of the Marine air-
40 ground task force. The tactical air command center can provide integration,
41 coordination, and direction of joint and combined air operations. (JP 1-02)
- 42 **Tactical Air Control Party (TACP)** – A subordinate operational component of a tactical air control
43 system designed to provide air liaison to land forces and for the control of
44 aircraft. (JP 1-02)
- 45 **Targeted Area of Interest (TAI)** – The geographical area or point along a mobility corridor where
46 successful interdiction will cause the enemy to either abandon a particular

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- 1 course of action or require him to use specialized engineer support to
2 continue, where he can be acquired and engaged by friendly forces. Not all
3 TAIs will form part of the friendly course of action; only TAIs associated
4 with high-payoff targets are of interest to the staff. These are identified
5 during staff planning and wargaming. TAIs differ from engagement areas in
6 degree. Engagement areas plan for the use of all available weapons; TAIs
7 might be engaged by a single weapon. (FM 100-5-1)
- 8 **Terminal Attack Control** – The authority to control the maneuver of and grant weapons release
9 clearance to attacking aircraft. (JP 3-09)
- 10 **Unmanned Aerial Vehicle (UAV)** – A powered, aerial vehicle that does not carry a human operator,
11 uses aerodynamic forces to provide vehicle lift, can fly autonomously or be
12 piloted remotely, can be expendable or recoverable, and can carry a lethal or
13 nonlethal payload. Ballistic or semiballistic vehicles, cruise missiles, and
14 artillery projectiles are not considered unmanned aerial vehicles. (JP 1-02)
- 15 **Winchester** – No ordnance remaining. (ALSA MTTP Brevity)

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7 BY ORDER OF THE SECRETARY OF THE ARMY:

8 Official:

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