ATP 3-09.90

Division Artillery Operations and Fire Support for the Division

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OCTOBER 2017

Headquarters, Department of the Army

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Army Techniques Publication
No. 3-09.90

ATP 3-09.90

Headquarters
Department of the Army
Washington, DC, 12 October 2017

Division Artillery Operations and Fire Support for the Division

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Preface

ATP 3-09.90 describes Division Artillery (DIVARTY) operations and fire support for the division.

The principal audience for ATP 3-09.90 is all field artillery (FA) commanders, staffs, and supported units. Users of this publication should also refer to ADP 3-0 and ADP 3-09, ADRP 3-0 and ADRP 3-09, FM 3-09 and related FA ATPs in the conduct of their specific tasks.

Commanders, staffs, and subordinates ensure that their decisions and actions comply with applicable United States, international, and, in some cases, host-nation laws and regulations. Commanders at all levels ensure that their Soldiers operate in accordance with the law of war and the rules of engagement. (See FM 27-10)

ATP 3-09.90 uses joint terms where applicable. Selected joint and Army terms and definitions appear in both the glossary and the text. Terms for which ATP 3-09.90 is the proponent publication (the authority) are italicized in the text and are marked with an (*) in the glossary. Terms and definitions for which ATP 3-09.90 is the proponent publication are boldfaced in the text. For other definitions shown in the text, the term is italicized and the number of the proponent publication follows the definition.

This publication applies to the Active Army, Army National Guard/Army National Guard of the United States, and United States Army Reserve unless otherwise stated.

The proponent and preparing agency for this publication is the United States Army Fires Center of Excellence and Fort Sill. Send comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Directorate of Training and Doctrine, U.S. Army Fires Center of Excellence, 700 McNair Road, Suite 128, ATTN: ATSF-DD (ATP 3-09.90), Fort Sill, OK 73503-9035; by e-mail to usarmy.sill.fcoe.mbx.dotd-doctrine-inbox@mail.mil, or submit an electronic DA Form 2028.

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Introduction

Effective DIVARTY operations and fire support require leadership, knowledge, and situational understanding. *Situational understanding* is the product of applying analysis and judgement to relevant information to determine the relationship among the operational and mission variables to facilitate decisionmaking (ADP 5-0). DIVARTY staff members must possess an in depth understanding of the functions associated with the planning, employment, targeting, and execution techniques necessary to ensure fires are available and delivered when and where they are needed. ATP 3-09.90 builds on the collective knowledge and experience gained through recent operations, and numerous exercises.

Fires assist Army forces in seizing, retaining and exploiting the initiative, defeating adaptive threats, and succeeding in a wide range of contingencies. Fires and external air support enhance freedom of action, movement and maneuver for ground forces. Fires are available to commanders via the following delivery formats: surface-to surface, surface to air, air-to surface and electronic attack.

Available weapon systems provide commanders a wide range of possible effects, generally classified as lethal and nonlethal. The ability to scale fires enables the successful engagement of high-payoff targets (HPTs) while mitigating collateral damage. The fire support planning team at all levels have the responsibility to plan for the delivery of an appropriate mix of lethal and nonlethal effects. Taking account of mission variables, enemy intentions, and available resources, commanders apply the necessary mix of force to accomplish the assigned mission.

The division commander relies on information obtained from fires personnel to determine the necessary effects required to achieve the desired endstate. The DIVARTY commander oversees planning and execution of fires to support the division. Integrated fires support the division commander's scheme of maneuver. The DIVARTY, when allocated fires capabilities, provides fires in support of offensive, defensive, and stability tasks. For more information related to the use of fires in support of offensive, defensive, and stability tasks see FM 3-09.

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Chapter 1
Division Artillery

The DIVARTY is a brigade level command that plans, prepares, executes and assesses fires for the division. The DIVARTY commander is the fire support coordinator (FSCOORD) for the division, and is the primary advisor to the division commander for the fires warfighting function. The *fires warfighting function* is the related tasks and systems that provide collective and coordinated use of Army indirect fires, air and missile defense, and joint fires through the targeting process (ADRP 3-0). This chapter discusses the DIVARTY's role, functions, key personnel, and organization.

SECTION I – THE ROLE OF THE DIVARTY

1-1. The role of the DIVARTY is to plan, prepare, execute and assess fires using precision and area munitions for the division. The DIVARTY employs fires and capabilities to create desired effects in support of the division commander's objectives. An *effect is* 1. The physical or behavioral state of a system that results from an action, a set of actions, or another effect. 2. The result, outcome, or consequence of an action. 3. A change to a condition, behavior, or degree of freedom (JP 3-0). The DIVARTY accomplishes these tasks by conducting the three tasks of the fires warfighting function. These tasks are; deliver fires, integrate all forms of Army, Joint, and Multinational fires and conduct targeting.

1-2. A DIVARTY is assigned to each division and focuses primarily on providing fire support to the division. *Fire support* is fires that directly support land, maritime, amphibious, and special operations forces to engage enemy forces, combat formations, and facilities in pursuit of tactical and operational objectives (JP 3-09).

1-3. The DIVARTY is the force field artillery headquarters for the division. Force field artillery headquarters can be designated at battalion and above by the supported commander. The supported commander specifies the duration, duties, and responsibilities of the headquarters. If given the authority by the division commander, the DIVARTY may provide mission command of fires forces. Depending on the established command or support relationship, this will include the authority to position and task allocate FA and air defense artillery (ADA) units. For more information on the force field artillery headquarters see FM 3-09. The following are tasks of the DIVARTY:

- Support the integration of Army, Joint, and Multinational fires.
- Deliver fires.
- Mass fires in support of the decisive operation.
- Conduct targeting.
- Manage the establishment of common survey and meteorological data across the division area of operations (AO).
- Provide the counterfire headquarters for the division and synchronize radar employment in the division AO.
- Advise the division commander on standardization of all FA training and certification.
- Support brigade combat team (BCT) standardization, training, certification and mentoring of FA battalions.
- Provide the force field artillery headquarters for the division.
- Provide indirect fires in support of the division when indirect fire assets are allocated to the DIVARTY.
- Provide suppression of enemy air defenses (SEAD), when task organized with firing units.
- Provide input to the division's shared common operational picture.

1-4. The DIVARTY is not allocated organic firing units, but is task organized with additional units based on mission requirements. Task organization may include a combination of multiple launch rocket system (MLRS), High Mobility Artillery Rocket System (HIMARS), or cannon battalions as well as other enablers. The DIVARTY, when allocated MLRS or HIMARS units, brings a long range and precision fire support capability to the division. The target processing section of the target acquisition (TA) platoon provides integration and synchronization of FA and ADA radars. This TA capability enhances the timely engagement of targets in order to achieve the commander's objectives through proper sensor-to-shooter linkages. Where additional firing units are required the commander or division assistant chief of staff, operations (G-3) coordinates to request a change in task organization or to request more forces.

1-5. The DIVARTY command post (CP) provides the division with the ability to have an alternate CP. If the division CP has to displace or is incapacitated the DIVARTY CP can perform mission command functions for the division for a limited time.

1-6. The DIVARTY can provide the counterfire headquarters for the division. If allocated the necessary firing units, the target processing section of the TA platoon in conjunction with the DIVARTY CP can be designated and coordinate the counterfire fight for the division.

SECTION II – DIVARTY FUNCTIONS

1-7. A *function* is a practical grouping of tasks and systems (people, organizations, information, and processes) united by a common purpose (ADP 1-01). This section will describe the functions of the DIVARTY as linked to the role of conducting the three tasks of the fires warfighting function.

DELIVER FIRES

1-8. When allocated the necessary assets, the DIVARTY integrates and delivers fires in support of offensive, defensive, and stability tasks. The preferred method is to locate and engage the enemy at a distance through the use of lethal and nonlethal means, while remaining outside the range of enemy systems. Long range fires support offensive, defensive, and stability tasks by providing a capability to engage targets at extended distances. These fires contribute to shaping operations and defeating or denying enemy capabilities that threaten joint and multinational forces. Fires in support of offensive tasks may engage enemy capabilities before they come in contact with or are employed against U.S. forces or populations, enabling commanders to seize, retain, and exploit the initiative. These fires present the enemy with multiple dilemmas, limit options, and destroy or degrade capabilities. Fires in support of defensive tasks support the range of military operations, and will often require the integration of Multinational forces. DIVARTY engagements may be used as separate attacks or in support of maneuver forces. For example, if the division commander seeks to dislocate the enemy, a BCT may conduct a turning movement (shaping) to expose an enemy force to DIVARTY strikes to defeat the enemy force (decisive). In another operation, the strike may attack an enemy headquarters to disrupt an enemy force (shaping) so that a BCT may close with and destroy the enemy force (decisive). Fires in support of stability tasks may be either offensive or defensive in nature. If fires tasks exist they should be related to the primary stability tasks. An example would be fires or indirect fires to protect key personnel and facilities. Another example would be the enforcement of border control or to keep two opposing forces apart. For more information on stability tasks and techniques see ATP 3-07.5.

STRIKE

1-9. A *strike* is an attack to damage or destroy an objective or a capability (JP 3-0). Strike is generally focused on a specific enemy formation and is a deliberate operation with a timeline of several hours to several days. Strike is not a fire mission against a target of opportunity. A key component to conducting effective strike is timely and accurate intelligence to determine targets and their locations. With an accurate target location precision-guided munitions can increase the likelihood of effective fires while reducing the risk of fratricide and mitigating collateral damage. The DIVARTY may be the supporting or supported command and employs Army, joint and multinational fires, often complemented by attack aviation, to conduct a strike. Strike may include rapid and aggressive movement of DIVARTY allocated assets well forward in the supported higher headquarters AO to achieve range on the identified target. Coordination should be made with the affected unit for positioning of the strike assets.

COUNTERFIRE

1-10. The division commander can assign the role of counterfire headquarters to the DIVARTY, an assigned or attached field artillery brigade (FAB), or to one of the BCTs FA battalions. When allocated the necessary assets the DIVARTY provides counterfire for the division. The DIVARTY will focus on engaging the enemies command and control and medium to long artillery assets. The counterfire headquarters plans and coordinates sensor management, and delivers fires in support of the division. The use of call for fire zones placed around suspected or known enemy artillery assets and critical friendly zones placed around the division's key assets or locations are critical to the counterfire fight. Positioning of DIVARTY counterfire delivery systems forward is a key consideration especially in an anti-access area-denial environment. The DIVARTY commander should consider the use of quick fire channels to enable responsive sensor to shooter links. For more information on counterfire see FM 3-09, ATP 3-09.12, and appendix B of this publication.

SUPPRESSION OF ENEMY AIR DEFENSES

1-11. *Suppression of enemy air defenses* is activity that neutralizes, destroys, or temporarily degrades surface-based enemy air defenses by destructive and/or disruptive means (JP 3-01). When allocated the necessary assets such as indirect fire, unmanned aircraft systems (UAS) or electronic attack assets, the DIVARTY may conduct SEAD to shape an objective for the division. SEAD is critical to the survival of division, corps, joint task force, and joint force commander air assets. It is an integral part of attack aviation planning, synchronized with, and integrated into the overall division or other supported command and combat aviation brigade (particularly air assault) operations. Fires suppress, neutralize, and destroy known and suspected enemy air defense weapons, radars, and command and control elements. See FM 3-09 for more information.

DEEP FIGHT

1-12. A *deep area* is the portion of the commander's area of operations that is not assigned to subordinate units (ADRP 3-0). The DIVARTY can help the division shape the deep fight. The DIVARTY when allocated MLRS, HIMARS, and cannon units can provide long range fires against enemy cannon, rocket, or missile units and against their headquarters and command and control assets. Fires should also be planned against follow on echelons of enemy units such as air defense systems, tank battalions, and attack helicopter units. The DIVARTY can facilitate the deep fight by employing MLRS, HIMARS, and cannon units forward in the division AO, Sensor to shooter links can be established to provide timely fires against long range enemy artillery assets when obtained by the division or DIVARTY weapons locating radar (WLR) sections and UAS.

CLOSE SUPPORT FIRES

1-13. When allocated the necessary assets, the DIVARTY is capable of providing close support fires to BCTs in support of offensive, defensive, and stability tasks. MLRS and HIMARS battalions are extremely effective at providing suppression against large enemy formations. Precision-guided munitions such as Excalibur or guided MLRS (referred to as GMLRS) are useful against targets near friendly troops, built up areas, and civilian populations. For more information on precision-guided munitions see ATP 3-09.32.

INTEGRATE ALL FORMS OF ARMY, JOINT, AND MULTINATIONAL FIRES

1-14. The DIVARTY commander as the division FSCOORD is responsible for integrating all forms of Army, Joint and Multinational fires to include nonlethal capabilities. The division fires cell provides effective exchange of information to adjacent headquarters, subordinate division elements, and other warfighting functions. The DIVARTY commander can integrate the division fires cell with all or part of the DIVARTY staff and targeting personnel.

AIR COMPONENT ASSETS

1-15. The primary means used by the division to request air component delivered joint fires during planning is via preplanned requests and target nominations. For close air support (CAS), preplanned request are done by sending a joint tactical air request through the joint force land component commander (JFLCC) to the battlefield coordination detachment (BCD) for input to the air tasking order (ATO). For more information on the joint tactical air request see ATP 3-09.32. The fires cell reviews and consolidates target nominations for inclusion in the joint targeting cycle. The fires cell will send these consolidated target nomination through the JFLCC to the BCD, for inclusion on the Joint Integrated Prioritized Target List (JIPTL). These nominations will likely result in air interdiction (AI) missions to create the desired effect on the target. Special instructions (referred to as SPINS) provide additional detailed information necessary for implementation of the ATO. Coordination between components can be documented in the special instructions to include: air support request (ASR) numbering, kill box procedures, and dynamic targeting procedures.

1-16. Immediate requests for air component delivered fires usually originate at the lowest echelon's tactical air control party (TACP) and are sent directly to the air support operations center (ASOC) through the joint air request net. The division fires cell as part of the joint air-ground integration center (JAGIC) monitors the immediate request for CAS and assists the air liaison officer (ALO) with any issues processing the request. Immediate requests for AI, within the division assigned airspace, will be handled within the JAGIC via use of on-call assets or by changing the role of other aircraft missions. The division fires cell assists with airspace control for the employment of fires from both ground and air delivery mechanisms. The fires cell integrates and synchronizes airspace control requirements with Army and joint control measures, including FSCMs, airspace coordinating measures (ACMs) and provides input to the ATO, airspace control plan and airspace control order (ACO). For more information or FSCMs and ACMs see FM 3-09 and FM 3-52 respectively.

1-17. The division should receive an ASOC and a TACP from the Air Force. The ASOC is a subordinate theater air control system (referred to as TACS) element of the joint air operations center (JAOC) and is focused on ATO execution. When directed by the commanding general, the ASOC and representatives from the division fires cell and airspace element integrate to form a JAGIC to serve as the focal point for the execution, direction and control of joint air operations directly supporting Army operations as well as provide near real-time airspace control of airspace users and airspace deconfliction of joint fires. See ATP 3-91.1 for more information on the JAGIC. The TACP participates in targeting and the operations process to plan for the use of joint airpower. The TACPs are located at Army tactical echelons to assist with air support planning and have qualified joint terminal attack controllers (JTACs) for CAS. A *joint terminal attack* controller is a qualified (certified) Service member who, from a forward position, directs the action of combat aircraft engaged in close air support and other offensive air operations (JP 3-09.3).

NAVAL ASSETS

1-18. The division may receive a naval gunfire liaison officer (NGLO), who acts as the liaison officer for the supporting naval task force. The NGLO coordinates all naval gunfire that is supporting the division or that may affect division operations. The NGLO advises the division commander and FSCOORD on all matters pertaining to naval gunfire employment. Additional Navy personnel may accompany the NGLO. The NGLO and any additional personnel are normally located with the division fires cell. If the division receives support from a ship with a general support mission, the division may also receive a shore fire control party. This shore control party can be retained at division to assist in coordinating naval surface fire support, or it may be placed with, or attached to, a subordinate unit and used to initiate and adjust fires or assist a subordinate fires cell with coordination of fires. If the division receives support from several ships that are in direct support of brigade or battalion sized forces, those maneuver units may also receive shore fire control parties.

MARINE CORPS ASSETS

1-19. Army units may also support or be supported by United States Marine Corps (USMC) artillery. The USMC relies on the 155-mm towed howitzer as its cannon artillery weapon. The Marine Corps also has HIMARS. Marine artillery doctrine, tactics, techniques, and procedures are similar to those exercised within the Army. Frequent joint exercises and the permanent exchange of liaison officers between Army and Marine artillery headquarters facilitate an understanding of each Service's procedures. The division fires cell has

USMC fire support representation when the division has an attached, operational control, or otherwise subordinate USMC force, or is conducting operations with a USMC force that is not under its control. The representation normally consists of a fire support liaison element that may be part of a larger liaison team provided to the division. The senior USMC fire support officer advises the division commander, the FSCOORD, and the JAGIC personnel on the capabilities, limitations, and the proper employment of any USMC fire support assets. The USMC fire support liaison element helps the division JAGIC maintain communications with fire support personnel in USMC maneuver units, with USMC FA units, and with USMC air assets. The USMC fire support liaison element helps the fires cell identify USMC fire support, TA, fire planning, and attack requirements as part of the overall division fires effort.

MULTINATIONAL ASSETS

1-20. Fires planned or executed for or by multinational forces are typically enabled by the exchange of liaison officers. An automated capability may be provided to non-automated Multinational units to maximize communications with the fires cell. If available, the fires cell should provide an automated capability with operators to the multinational unit. The DIVARTY must provide support to help integrate multinational artillery units into the division.

NONLETHAL CAPABILITIES

1-21. It is important that nonlethal capabilities are integrated with fires. The FSCOORD, DIVARTY operations officer, DIVARTY intelligence officer, and appropriate staff officers assist the division with the integration of nonlethal capabilities such as electronic warfare, cyber electromagnetic activities, military information support operations, and information operations. These capabilities are integrated into operations using already established joint and Army processes such as intelligence, targeting, and the military decisionmaking process (MDMP).

ELECTRONIC WARFARE

1-22. Electronic warfare systems are used to degrade jammable threats and to neutralize enemy systems when destruction is not feasible. To prevent fratricide of friendly field artillery and air and missile defense radars, the DIVARTY must provide friendly emitter order of battle and location information for inclusion in the airspace control order.

1-23. Electronic attack involves the use of electromagnetic energy, directed energy, or anti-radiation weapons to attack personnel, facilities, or equipment with the intent of degrading, neutralizing, or destroying enemy combat capability and is considered a form of fires. Electronic attack includes—

- Actions taken to prevent or reduce an enemy's effective use of the electromagnetic spectrum.
- Employment of weapons that use either electromagnetic or directed energy as their primary destructive mechanism.
- Offensive and defensive activities, including countermeasures.

1-24. Electronic attack targeting nominations should target the enemies command and control networks and long range fire control networks. Electronic attack should be combined with all forms of fires to prevent a coordinated enemy maneuver or fires support effort. For more information on electronic warfare to include electronic attack see JP 3-13.1 and FM 3-12.

CYBERSPACE ELECTROMAGNETIC ACTIVITIES

1-25. Incorporating cyberspace electromagnetic activities with fires throughout all phases of an operation, allows for freedom of maneuver in the land and cyberspace domains. At the same time this denies the same to our enemies and adversaries.

1-26. The DIVARTY fires cell assists the division fires cell to plan, coordinate, integrate, synchronize, and deconflict fire support, current and future, for the command including Army, joint, interorganizational, and multinational partners, as appropriate. Through targeting, cyberspace electromagnetic activities are integrated and synchronized by the electronic warfare officer. For cyber electromagnetic activities, the fire support personnel—

- Review target nominations for inclusion to and verify addition on the joint integrated prioritized target list.
- Lead the targeting working group and participate in the targeting board.
- Provide input to the information collection plan and designate targets in coordination with the analysis and control element.
- Participate in the cyber electromagnetic activities working group to deconflict targeting and fires requirements with cyberspace and electronic warfare (EW) operations.
- Ensure the synchronization of cyberspace and EW effects through the fires synchronization matrix.

MILITARY INFORMATION SUPPORT OPERATIONS

1-27. During planning, military information support operations staff planners participate in the targeting process by nominating specific targets and target audiences to influence, and by advising the commander on the effects of lethal and nonlethal actions on the nominated targets and target audiences. Planners identify vulnerabilities within selected targets, determine the capabilities required to deliver information, and assess effects. As the advisor on military information support operations, planners describe how unit actions affect the targeted populations' anticipated decisions, and subsequent actions with the ultimate intent to gain active support for U.S. operations from local leaders, key communicators, and populations. More specifically, military information support operations staff planners—

- Advise the commander and staff on both planned psychological effects and unplanned psychological impacts.
- Advise planners on the use of lethal and nonlethal actions to exert influence on selected targets and target audiences to achieve desired effects.
- Develop, manage, and assess the commander's Soldier and leader engagement plan.
- Monitor and coordinate assigned, attached, and supporting military information support unit operations and activities.
- Provide updates to the commander and staff on the status of influence efforts within the unit, laterally, and at higher and lower echelons.

1-28. For more information on military information support operation see FM 3-53.

INFORMATION OPERATIONS

1-29. Information operations are integrated into the targeting cycle to produce effects in and through the information environment that support objectives. The targeting cycle facilitates the engagement of the right target with the right asset at the right time. The information operations officer or representative is a part of the targeting team, responsible to the commander and staff for all aspects of information operations.

1-30. Information operations effects are typically indirect rather than direct and like indirect fire, greatly benefit from deliberate selection, development and delivery. This fact is why information operation's targets, like offensive cyberspace operations and space targets, are a part of the targeting process and get nominated to the targeting board for approval.

1-31. The targeting process is cyclical. The division's battle rhythm determines the frequency of targeting working group meetings. Information operations-related target nominations are developed by the information operations officer and by the information operations working group, which validates all information operations-related targets before they are nominated to the targeting working group. Therefore, the information operations working group is always scheduled in advance of the targeting working group. For more information on information operations see FM 3-13.

CONDUCT TARGETING

1-32. The division commander is overall responsible for targeting inside the division AO. The division chief of staff has a key leadership role in synchronizing the division's targeting effort by supervising various staff sections that contribute to the targeting process. The division uses decide, detect, deliver, and assess (referred to as D3A) methodology to conduct targeting. The commander's targeting guidance, mission statement, intent and prioritized objectives set the stage for targeting. The FSCOORD advises the division commander with formulating targeting guidance and oversees targeting functions. For more information on targeting see ATP 3-60 and chapter 3 of this publication.

SECTION III – DIVARTY ORGANIZATION

1-33. A DIVARTY (see figure 1-1) consists of a headquarters with a headquarters and headquarters battery that contains a TA platoon, signal platoon, and two sentinel teams. The division commander assigns the DIVARTY its mission and coordinates its actions with BCTs and other support brigades assigned to the command. The DIVARTY might be required to allocate some of its subordinate elements to BCTs or other brigades of the command.

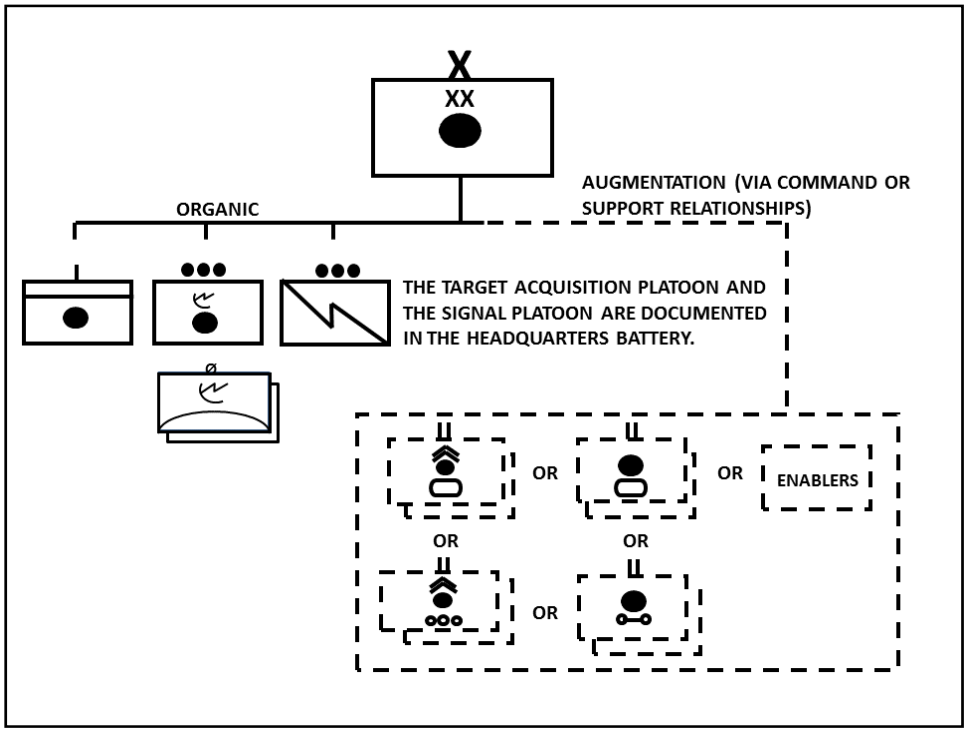


Figure 1-1. DIVARTY Organization (Example)

HEADQUARTERS AND HEADQUARTERS BATTERY

1-34. The DIVARTY command and staff sections provide mission command for the DIVARTY's organic, attached, assigned, or supporting units. The headquarters battery provides logistics support and personnel for the DIVARTY headquarters, staff sections, TA and signal platoons. The DIVARTY staff provides expertise across a broad range of functional areas. These areas include command and administrative supervision for up to four assigned, attached or operational control FA battalions. This expertise includes dispatching liaison teams to adjacent force field artillery headquarters and supporting units as required. These areas include coordination, integration and synchronization of all fire support matters in the division. The following staff sections and elements are found in the Headquarters and headquarters battery:

- Command Section.
- Battalion or brigade personnel staff officer (S-1) supervises the S-1 Section.
- Battalion or brigade intelligence staff officer (S-2) supervises the S-2 Section.
- Targeting Section.
- Topographic Information and Services Section.
- Battalion or brigade operations staff officer (S-3) supervises the S-3 Section
- Air support.
- Fires lethal effects element.
- Air defense airspace management/brigade aviation element.
- Sentinel Radar Teams (two each).
- Fire control element.
- TA platoon
- Liaison section.
- Battalion or brigade logistics staff officer (S-4) supervises the S-4 section.
- Battalion or brigade signal staff officer (S-6) supervises the S-6 section.
- Enterprise management element.
- Network assurance element.
- Content management element.
- C4 operations-signal operations.
- Signal support platoon headquarters.
- Range extension section.
- Network extension section.
- Brigade staff judge advocate section.
- Unit ministry team.
- Battery headquarters.
- Supply section.
- Medical treatment team.
- Ambulance team.
- Combat medic section.

COMMAND SECTION

1-35. The command section consists of the main leadership of the DIVARTY. The DIVARTY commander, deputy commander, DIVARTY command sergeant major, an advanced field artillery tactical data system (AFATDS) specialist and two vehicle drivers make up the command section. The DIVARTY commander as the FSCOORD decides where to locate in order to best support the division commander. When the DIVARTY commander is at the division headquarters or other locations the deputy commander takes charge of the DIVARTY headquarters.

S-1 SECTION

1-36. The DIVARTY S-1 section under the supervision of the DIVARTY S-1 is responsible for all matters concerning human resources support (military and civilian). The section provides technical direction to the DIVARTY and any allocated units in the areas of personnel readiness management, personnel accounting and strength reporting. The section also provides personal information management, casualty operations, postal operations, and essential personnel services. These services include reception, replacement, return-to-duty, rest and recuperation, and redeployment, human resources planning and staff operations, and morale, welfare, and recreation operations. The S-1 section coordinates the staff efforts of the brigade judge advocate, and is the staff point of contact for the equal opportunity advisor. , retention, inspector general, and morale support activities. The DIVARTY S-1 shares responsibility with the DIVARTY S-4 for manning the sustainment cell and conducting its operations. For a more complete listing of S-1 duties see FM 6-0.

S-2 SECTION

1-37. The DIVARTY S-2 section is the DIVARTY commander's staff section responsible for all matters concerning the threat, as it pertains to the operational environment. The DIVARTY S-2 section provides intelligence to support current and future operations and plans. The S-2 section is responsible for intelligence readiness, intelligence tasks, intelligence synchronization, other intelligence support, counterintelligence, and support to security programs. The DIVARTY S-2, supported by the entire staff, provides the DIVARTY commander with information and intelligence for targeting the threat's forces, systems, and facilities, including intelligence support for target development, target detection, and for employment of Army indirect fires, joint fires, and EW to include scalable fires. The S-2 section is directly responsible for developing and coordinating Annex B (Intelligence) and providing input to Appendix 4 (FA support) to Annex D (Fires) (including the associated radar deployment order and radar execution matrices) to DIVARTY plans and orders. See FM 6-0 for a more complete listing of S-2 duties. For more information on electronic warfare see JP 3-13.1.

TARGETING SECTION

1-38. The DIVARTY targeting section provides the DIVARTY commander and staff with intelligence information essential to the operation and survival of the DIVARTY and its subordinate units. The targeting section provides targeting support to the S-2 section for DIVARTY operations. The targeting section assists in developing intelligence products (running estimates/annexes/appendices/templates) and other intelligence input to all DIVARTY plans and orders.; The targeting section is directly responsible for Appendix 3 (Targeting) and Tab (TA) to Appendix 4 (FA Support) to Annex D (Fires), to DIVARTY plans and orders. This includes developing the radar deployment order, radar execution matrices, and ensuring the associated radar deployment order designates positions and establishes cueing procedures. They provide recommendations and input to the DIVARTY's fires lethal effects element and targeting working group as they develop the high-payoff target list (HPTL) and attack guidance matrix (AGM) for the DIVARTY commander. A *working group* is a grouping of predetermined staff representatives who meet to provide analysis, coordinate, and provide recommendations for a particular purpose or function (FM 6-0).

TOPOGRAPHICAL INFORMATION AND SERVICES SECTION

1-39. The topographical information and services section supports the DIVARTY intelligence preparation of the battlefield (IPB) by producing the combined obstacle and related terrain analysis overlay. They support the fires lethal effects element and targeting section with analysis of traffic possibilities, routes, choke points, avenues of approach, and obstacles. The section provides targeting and intelligence support by providing visible are infiltration routes, landing zones, drop zones, cover and concealment analysis for positioning intelligence collectors, and developing long-range surveillance target folders. The section also provides targeting support with line-of-sight, mobility, cover and concealment studies, and structural information on man-made targets. Upon request the section can provide terrain products to DIVARTY subordinate and supporting units. For more information on topographical information and services see ATP 3-34.80.

S-3 SECTION

1-40. The DIVARTY S-3 and the S-3 section, plays a vital role in coordination and synchronization of fires for the division and the DIVARTY. The S-3 supervises and coordinates the DIVARTY staff during the MDMP. The S-3 determines DIVARTY combat potential and capabilities to provide timely input to mission planning and decisions and the employment of the DIVARTY to accomplish FA tasks. The DIVARTY S-3 works with the division G-3 to ensure that movement and range capabilities are accurate and synchronized for operations. The S-3 section monitors the progress of the division maneuver elements, anticipates requirements and coordinates the integration of all allocated elements into the DIVARTY plan. The S-3 is responsible for positioning guidance of allocated FA units and radars. The S-3 integrates all indirect fires assets and capabilities, and integrates FA tasks into the fires rehearsal.

AIR SUPPORT/TACTICAL AIR CONTROL PARTY

1-41. The DIVARTY air support element consists of the Air Force TACP. The ALO leads the TACP and advises the DIVARTY commander and staff on air support and its effects. The ALO leverages the expertise of the TACP with linkages to the supported higher headquarters TACPs to plan, coordinate, synchronize, and execute air support operations. The ALO maintains situational understanding of the total air support picture. For more information on air support and the TACP see JP 3-09.3 and FM 3-52.

FIRES LETHAL EFFECTS ELEMENT

1-42. The lethal effects element plans lethal effects for future DIVARTY operations and targeting. The DIVARTY CP facilitates collaboration of lethal effects with other warfighting functions through the targeting working group. The lethal effects element prepares inputs and products used in targeting. The lethal effects element prepares recommendations for the DIVARTY targeting working group sessions and implements the resulting decisions. For more information see ATP 3-60.

AIR DEFENSE AIR MANAGEMENT/BRIGADE AVIATION ELEMENT

1-43. The air defense air management/brigade aviation element plans and synchronizes air and missile defense (AMD) operations, and aviation operations for the DIVARTY. The air defense air management/brigade aviation element provides airspace planning and near real time control during execution of DIVARTY operations. The DIVARTY has two Sentinel radar teams. The Sentinel radar provides the foundation for early warning across the division, gives the division commander an early warning air picture and the ability to positively identify air threats. The Sentinel system is currently fielded in two variations; the enhanced target range and classification version (AN/MPQ-64A1), and the improved version (AN/MPQ-64A3). The Sentinel radars further increase the targeting capabilities of the DIVARTY and provide the commander an organic air surveillance and tracking capability. For more information on Sentinel operations see ATP 3-01.48.

FIRE CONTROL ELEMENT

1-44. The DIVARTY fire control element is responsible for the delivery of FA fires in support of current operations. The DIVARTY fire control element provides tactical fire control through automated mission command systems with manual backup and communications equipment. The fire control element controls fires of allocated FA units. The fire control element requests engagement by supporting assets as required. The fire control element uses the commander's attack guidance to analyze targets for attack, and executes preplanned fires. In coordination with the S-3 determines registration requirements. The fire control element monitors and operates fire direction and fire support coordination nets in the DIVARTY. They also provide technical fire direction assistance to subordinate battalion fire direction centers as required. For more information on fire control see FM 3-09.

TARGET ACQUISITION PLATOON

1-45. The TA platoon is organized with a TA platoon headquarters a target processing section, survey and the AN/TPQ-53 and AN/TPQ-50-series WLR sections. The TA platoon may have an AN/TPQ-36 and AN/TPQ-37 sections in lieu of the AN/TPQ-53 radar sections. The TA platoon provides weapons locating capabilities to support the targeting efforts of the supported headquarters as well as survey enablers to ensure accurate fires. Once completely fielded the TA platoon at the DIVARTY will consist of two AN/TPQ-53 sections and two AN/TPQ-50 teams, and two Sentinel AN/MPQ-64 teams. The IPADS is in the process of being replaced with IPADS-Global Position Systems (IPADS-G). The DIVARTY retains the survey equipment to perform the survey tasks. The 13T (Surveyor) team has been eliminated and associated tasks are being moved to other 13 series existing military occupational specialties. The target processing section provides personnel and capability to perform counterfire tasks for the division. For more information on the TA platoon see ATP 3-09.12.

LIAISON SECTION

1-46. This section is responsible for establishing communications and coordinating FA matters with adjacent and supported units. When directed, LNOs exchange data and coordinate fires across division boundaries. Similar to corps-level operations, most of the DIVARTY's liaison requirements are dealt with by FSEs. In selected cases, DIVARTYs may be required to establish additional liaison links to include when the division is in reserve and the DIVARTY is given a reinforcing support relationship or is placed in general support to the corps. Also, when a FAB reinforces the DIVARTY, reciprocal liaison should be established.

S-4 SECTION

1-47. The DIVARTY S-4 supervises the S-4 section and is responsible for staff oversight of DIVARTY sustainment operations. Although the lead sustainment planner in the sustainment cell, the DIVARTY S-4 coordinates with and relies heavily upon sustainment support from the division. The S-4 will provide input and staff oversight to the DIVARTY in the areas of supply, maintenance, transportation, medical, and field services. The DIVARTY S-4 acts as the staff integrator for sustainment operations.

S-6 SECTION

1-48. The DIVARTY S-6 supervises the DIVARTY S-6 signal section. The focus of the section is on those tasks integral to the mission command warfighting function. The S-6 section supports and facilitates DIVARTY CP operations and information management. This includes tasks associated with acquiring friendly information and managing relevant information. The Enterprise Management Element, Network Assurance Element, Content Management Element, and C4 Ops Signal Ops Elements fall under the DIVARTY S-6 section. The automation management section provides assistance with the establishment, operation, and maintenance of the DIVARTY’s automation systems. This includes hardware, software, networks, and automation security. The section’s networking functions include management and maintenance internal to the DIVARTY local area network.

Signal Support Platoon

1-49. The signal support platoon deploys, installs, and operates the information systems networks that support DIVARTY operations and integrate with the division and corps networks. The signal support platoon enables DIVARTY communications by providing line-of-sight and beyond-line-of-sight connectivity for classified and unclassified information (voice and data), tactical network coverage, and CP support. The platoon includes the signal support platoon headquarters, network extension section, and range extension section.

Signal Support Platoon Headquarters

1-50. The signal support platoon headquarters provides mission command, logistics, and administrative support for the platoon and coordinates the maintenance support of communications and electronics systems with the DIVARTY signal staff officer. The platoon headquarters prepares and trains the range extension and network extension section Soldiers for tactical operations.

Range Extension Section

1-51. The range extension section provides:

- Mission Command for three SINCGARS wireless network extension teams and small CP. support teams that provide command post node support for the DIVARTY CP.
- Command post node voice, video, and data services to the DIVARTY CP.
- Habitual line-of-sight and beyond-line-of-sight network connectivity.
- Data and battlefield video teleconferencing center connectivity to host equipment, and interface special circuits.

Network Extension Section

1-52. The network extension section provides:

- Control of the joint network node and the secure mobile anti-jam reliable tactical terminal at the main CP.
- Voice, video, and data services to the main CP.

The joint network node that:

- Terminates circuits,
- Provides data and battlefield video teleconferencing center connectivity to host equipment.
- Interfaces special circuits.
- Control line of sight connectivity to the main CP.
- Wireless network operations.
- Enhanced position location reporting system Gateway Operations when required.
- Supervision of the retransmission teams and satellite communications (referred to as SATCOM) operations.
- Extended-range access for division-level frequency modulation radio networks.

STAFF JUDGE ADVOCATE SECTION

1-53. The DIVARTY staff judge advocate section provides legal support to the command, DIVARTY staff and subordinate battalions across the judge advocate general's corps legal disciplines. The DIVARTY judge advocate usually locates the legal section in the DIVARTY's main command post to provide immediate support to the DIVARTY commander and the fires cell. See FM 1-04 for additional information on legal support.

UNIT MINISTRY TEAM

1-54. The DIVARTY has a unit ministry team, consisting of a chaplain and chaplain assistant, to provide religious support to their Soldiers. The chaplain serves the commander as a personal staff officer. The chaplain plans, synchronizes, and coordinates religious support within the DIVARTY AO. The DIVARTY unit ministry team is responsible for the technical oversight of the unit ministry teams in subordinate units.

BATTERY HEADQUARTERS

1-55. The battery commander, first sergeant, and their driver. The battery headquarters also includes a supply section, medical treatment team, ambulance team, and combat medic section.

DUTIES AND RESPONSIBILITIES OF KEY PERSONNEL

1-56. Key personnel in the DIVARTY include the commander, command sergeant major, deputy commanding officer, fire control officer, counterfire officer, and targeting officer. The duties and responsibilities of key personnel are listed in the following paragraphs.

DIVISION ARTILLERY COMMANDER

1-57. The DIVARTY commander is the FSCOORD for the division, and locates to best support the division's targeting effort, for example at the division command post where the JAGIC is located. When the DIVARTY commander is not present at the division command post the chief of fires (a coordinating staff officer) on the division staff performs the duties of the FSCOORD. When the DIVARTY commander is present the chief of fires serves as his deputy in the role of the deputy FSCOORD for the Division. The DIVARTY commander is responsible for planning, integrating, coordinating, synchronizing, and implementing DIVARTY operations in support of the division commander. The DIVARTY commander

provides guidance in the form of commander's intent, mission statements, and commander's critical information requirements to the DIVARTY staff and allocated subordinate unit commanders. The DIVARTY commander:

- Executes missions assigned to the DIVARTY by higher headquarters.
- Determines specified and implied tasks for the DIVARTY based on the division or other higher headquarters concept of operations, concept of fire support, and other guidance in the operation plan (OPLAN) or operation order (OPORD).
- Recommends allocation of fires, assignment of command and support relationships, and positioning of surveillance, reconnaissance, and TA.
- Advises the division commander on DIVARTY capabilities required to support committed BCTs engaged in the current battle.
- Expedites processing of immediate requests for fire support.
- Verifies fires mensuration credentials.
- Oversees DIVARTY participation in division targeting.
- Provides mission command of the DIVARTY and its subordinate organic, assigned, and attached units and as designated by the higher headquarters.
- Assesses combat readiness of DIVARTY subordinate organic, assigned, and attached units.
- Conducts the division fire support rehearsals.
- Issues commander's critical information requirements.
- Approves DIVARTY plans and orders.
- Participates in the targeting board.
- Oversees the training and integration of the division JAGIC fire support personnel.
- Oversees the training and integration of the division ADA personnel.

1-58. The DIVARTY commander as the FSCOORD translates the division commander's guidance for fires into clear and concise fire support tasks. *Fires* are the use of weapons systems or other actions to create specific lethal or nonlethal effects on a target (JP 3-09). As the FSCOORD for the division, the DIVARTY commander is the primary advisor to the division commander on all aspects of the fires warfighting function. The division commander may also direct the DIVARTY commander to assist BCT commanders in training and preparing FA battalions. The DIVARTY commander should work closely with the BCT commander in order to effectively manage the training and certifications of the BCT FA battalion. The DIVARTY commander contributes to the mentorship of FA battalion commanders in the execution of their duties and provide technical oversight in support of the BCT commander.

1-59. As the senior FA officer in the division, the DIVARTY commander has a responsibility to provide the subject matter expertise on FA training and certification of all FA units assigned to the division, including those BCT or separate FA battalions which may be assigned or attached to the division. In order to accomplish this responsibility the DIVARTY commander standardizes the certification of all FA units in the division. The certification should be based on the artillery tables located in TC 3-09.8. This standardization provides a common construct that enables training, fires unit certification and leader development while exemplifying effective mission command, and supporting a seamless cross-attachment of units with common procedures and shared understanding. The DIVARTY commander provides guidance and mentorship for FA training across the division. The DIVARTY commander must work closely with the BCT commanders.

DIVARTY COMMAND SERGEANT MAJOR

1-60. The DIVARTY command sergeant major is the senior enlisted advisor to the DIVARTY commander. The command sergeant major is both a specialist and a generalist who must have technical competence as a field artilleryman while being broadly knowledgeable in all functional areas such as operations, administration, and sustainment. The DIVARTY command sergeant major best serves as an extension of the DIVARTY commander and works closely with each of the DIVARTY staff sections. The DIVARTY command sergeant major has specific responsibilities, which may include:

- Assists the DIVARTY commander in maintaining effective communication with senior and subordinate leaders and staffs.

- Validates that the DIVARTY commander's directions and intent are being properly communicated through the leadership chain to the front line Soldiers and that their feedback and concerns are reaching the commander.
- Advises the DIVARTY commander and staff on all matters pertaining to enlisted Soldiers.
- Assists the S-3 in planning, coordinating, and supervising collective and individual training to include certification requirements.
- Mentor fires leaders and Soldiers as the senior enlisted fires Soldier in the division.

DIVARTY Deputy Commanding Officer

1-61. The DIVARTY has a deputy commander to serve as the second in command. The deputy commander's duties, responsibilities, and authority vary based on the DIVARTY commander's desires, the DIVARTYs mission, and the scope and complexity of operations. The DIVARTY commander delegates authority to his deputy commander for specific areas and functions. By maintaining the deputy commander's focus on the DIVARTY the DIVARTY commander is enabled the freedom to extend the span of his own control. Key considerations include:

- The deputy commander might command a portion of the force or the AO, chair key boards and working groups, or oversee readiness.
- Coordinating and special staff officers generally do not work for the DIVARTY deputy commander, unless directed by the DIVARTY commander.
- The DIVARTY deputy commander often serves as the DIVARTY commander's representative for negotiations, media activities, and designated key leader engagements.
- The position of the DIVARTY deputy commander enables the DIVARTY S-3 to focus on the overall integration and synchronization of current operations.
- The DIVARTY deputy commander may also serve as a temporary liaison officer to unified action agencies and multinational staff or command groups when and where the mission variables dictate.

DIVARTY Operations Officer S-3

1-62. The DIVARTY operations officer S-3 is the commander's primary assistant for preparing FA support plans and orders, and for exercising control over subordinate formations. The S-3 is in charge of the DIVARTY command post and exercises coordinating staff supervision. The roles and responsibilities of the S-3 include:

- Plan, coordinate, and supervise execution of movement operations.
- Develop and maintain FA operations running estimates.
- Maintain effective control of command post operations during the MDMP ensuring effective staff coordination and cooperation.
- Ensure the DIVARTY commander has access to critical information at all times.
- Advise the DIVARTY commander on ADA and FA organization for combat to include target acquisition assets, positioning of units, allocation of ammunition, priority of fires, and target selection standards.
- Monitor operations of the supported force, subordinate elements, and units to the flanks or in the area of operations with an emphasis on friendly force and enemy FA dispositions and capabilities.
- Assess and monitor the status of current and projected FA capabilities.
- Develop the FA support plan complying with the DIVARTY commander's guidance.
- Supervise modifications to the FA support plan.
- Issue fragmentary and warning orders and review subordinate unit plans and orders.
- Plan and coordinate moves of supporting units in support of current operations.
- Perform alternate command post function as necessary.
- Conduct FA tactical and technical rehearsals.
- Ensure survey support is being provided.
- Coordinate and control the fires of assigned or attached units.

FIRE CONTROL OFFICER

1-63. The Fire Control Officer supervises tactical and technical fire direction within the DIVARTY. Based on guidance from the DIVARTY commander, S-3, S-2, and targeting officer, the fire control officer decides where and how the DIVARTY and any reinforcing units will fire. The fire control officer has specific responsibilities, which may include:

- Supervise the fire control section.
- Develop tactical and technical fire direction guidance.
- Develop and supervise input of appropriate parameters into the AFATDS.
- Coordinate digital communications and database elements with users of non-FA digital mission command systems, as required.
- Establish procedures and train personnel to accomplish tactical and technical fire direction in a degraded (manual and voice) mode.
- Establish procedures for interface between AFATDS and any other digital system with which the fire control section may be required to interface.
- Establish and maintain the tactical air integration system link in particular to receive the airspace control overlay, and facilitate coordination and clearance of airspace for mission execution.

COUNTER FIRE OFFICER

1-64. The counterfire officer is located in the current operations and counterfire section in the DIVARTY command post. Duties of the counterfire officer include:

- Supervises the counterfire section at the DIVARTY.
- Provides target location error information on available WLRs to the fires cell or FSCOORD as a basis for their recommendations to the targeting team.
- Acts as the principal advisor on counterfire and the employment of WLRs.
- Writes the TA tab to the OPORD.
- Develops and issues the radar deployment order (RDO).
- Coordinates TA planning and execution with the DIVARTY operations officer, and the TA platoon leader.
- Recommends search azimuth, radar zones, and cueing schedules.
- Uses automated systems to ensure that WLRs are properly oriented, cued, and targets are expeditiously engaged.

TARGETING OFFICER

1-65. The DIVARTY targeting officer is located in the S-2 section at the DIVARTY CP. The targeting officer supervises the targeting effort of the targeting section personnel, duties include:

- Conducts pattern analysis of indirect fire acquisitions to assist with the templating of enemy indirect fire positions.
- Facilitates the DIVARTY targeting working group.
- Prepares the DIVARTY HPTL, (AGM), and target selection standards (TSS).
- Submits targets for engagement by higher headquarters.

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Chapter 2
Division Fire Support

This chapter describes fire support at the division level in the operations process. Fire support follows the mission command activities performed during operations: planning, preparing, executing, and continuously assessing the operation. These four activities serve as a template for coordinating other actions associated with an operation including integrating processes, continuing activities, and actions specific to each operations process activity. Both integrating processes and continuing activities occur throughout an operation. Commanders synchronize them with each other and integrate them into all operations process activities. *Fires* is the use of weapon systems or other actions to create specific lethal or nonlethal effects on a target (JP 3-09). Fire support as defined in chapter 1 is fires that directly support land, maritime, amphibious, and special operations forces to engage enemy forces, combat formations, and facilities in pursuit of tactical and operational objectives. This chapter focuses on fire support, which is the employment of fires in direct support of operations.

SECTION I – FIRE SUPPORT PLANNING WITHIN THE MILITARY DECISIONMAKING PROCESS

2-1. The *military decisionmaking process* is an iterative planning methodology to understand the situation and mission, develop a course of action, and produce an operation plan or order (ADP 5-0). The MDMP helps leaders apply thoroughness, clarity, sound judgment, logic, and professional knowledge to build shared understanding, develop options to solve problems, and reach decisions. This process helps commanders, staffs, and others think critically and creatively while planning.

THE MILITARY DECISIONMAKING PROCESS

2-2. Working with the division commander and staff through the MDMP, the FSCOORD and fires cell planners develop effective, integrated, and executable fire support plans to support division operations. They employ the principles of fire support planning, coordination, and execution as a guide. For detailed information on the principles of fire support planning see FM 3-09.

2-3. An effective fire support plan clearly defines fire support requirements and focuses on accomplishing the division commander's fire support tasks. It is a critical subset of the OPLAN or OPORD. An effective fire support plan reflects a detailed understanding of the division commander's intent. The fire support plan also requires the expertise necessary to assemble, to coordinate and to direct appropriate information collection, TA, and engagement assets toward a common objective.

2-4. The utilization of fire support coordination measures and airspace coordinating measures create clarity on a complex battlefield and facilitate permissive and responsive fires through the rapid clearance of ground and airspace for fires engagements. Fire support coordination measures promote the synchronization of fires and fire support with maneuver and the other warfighting functions. Commanders employ permissive and restrictive fire support coordination measures to expedite engagement of targets, protect forces, populations, critical infrastructure, and sites of religious and cultural significance; deconfliction of fire support tasks, and set the stage for future operations. Permissive measures should be placed as close to friendly positions as possible to optimize the employment and effectiveness of all fire support means. For example, commanders should place the coordinated fire line as close as possible to the forward line of own troops or forward of lead elements in an attack. The coordinated fire line should be consistent with close and deep operations to permit rapid and effective employment of fires and to protect the force. By establishing a fire support coordination line close-in, yet at sufficient depth so as to not limit high-tempo maneuver, commanders ease the

coordination requirements for engagement of targets within their areas of operations by forces that may not be under their direct control such as during the conduct of attack aviation by rotary-wing aircraft, or air interdiction by fixed wing aircraft. The commander adjusts the location of the fire support coordination line as required to keep pace with operations.

2-5. In coordination with all affected, supported, and supporting units, commanders position and adjust control measures with the location of friendly forces, the scheme of maneuver and fires, and anticipated enemy locations. Fire support coordination measures are developed during the MDMP and should include the consideration of the minimum safe distance of each weapon system. Successive on order coordination measures should permit rapid and orderly changes without delays at critical times. Permissive measures normally require no further detailed coordination for the engagement of targets. Restrictive measures impose requirements for specific coordination before engagement of targets. In addition there may be exist theater-specific coordination measures to increase responsiveness under selected environments. For example the deep battle synchronization line used in Korea. For more information on permissive and restrictive fire support coordination measures see FM 3-09.

2-6. The *fire support plan* is a plan that addresses each means of fire support available and describes how Army indirect fires, joint fires, and target acquisition are integrated with maneuver to facilitate operational success (FM 3-09). An integrated fire support plan provides the focus and timing for acquisition of necessary targeting information and employment of engagement systems against HPTs. The plan's execution creates effects when and where needed to support division operations. An integrated fire support plan coordinates and combines with the other warfighting functions to maximize the results of each engagement. An executable fire support plan links detect and deliver assets to the HPTs and includes subsequent assessment.

RECEIPT OF MISSION

2-7. Upon receipt of a mission, the division commander and staff, including the FSCOORD and fires cell, perform an initial assessment. The fires cell actions (update running estimates, input to the initial IPB [see ATP 2-01.3], information collection tasking [see FM 3-55], and warning order) and outputs are identified in Table 2-1. The fires cell uses the running estimate to record assessments and other information. A *running estimate* is the continuous assessment of the current situation used to determine if the current operation is proceeding according to the commander's intent and if planned future operations are supportable (ADP 5-0).

Table 2-1. Division fires cell during receipt of mission

Military Decisionmaking Process STEP 1: RECEIPT OF MISSION		
Division Staff	***Key FSCOORD and Fires Cell Actions***	***Fires Cell Output***
• Alert the staff and other key participants. • Gather the tools. • Update running estimates. • Conduct initial assessment. • Issue the commander's initial guidance. • Issue the warning order.	• Collect higher headquarters OPLAN/OPORD, maps, current IPB, and fires running estimate. • Update fires running estimate; gather facts from higher, lower, and adjacent fires cells. • Provide fire support input during formulation of the division commander's initial guidance and initial warning order.	• Updated fires running estimate. • Provide updated facts to higher, lower, and adjacent headquarters. • Fire support input to IPB and reconnaissance and surveillance tasking.
FSCOORD – fire support coordinator IPB – intelligence preparation of the battlefield OPLAN – operation plan OPORD – operation order		

MISSION ANALYSIS

2-8. A thorough mission analysis is crucial to planning. Mission analysis (see table 2-2 beginning on page 2-3 and continuing on page 2-4) consists of the tasks identified in FM 6-0. Participation by fire support personnel in the IPB is critical to shaping fire support tasks and targeting decisions later in the MDMP.

Table 2-2. Division fires cell during mission analysis

Military Decisionmaking Process STEP 2: MISSION ANALYSIS		
Division Staff	***Key FSCOORD and Fires Cell Actions***	***Fires Cell Output***
• Analyze the higher headquarters plan or order. • Perform IPB. • Determine specified, implied, and essential tasks. • Review available assets and identify resource shortfalls. • Determine constraints. • Identify critical facts and develop assumptions. • Begin risk management; identify and assess hazards. • Develop initial commander's critical information requirements and essential elements of friendly information.	• Understand next 2 higher headquarters operations and fire support plans. • Receive IPB products including enemy courses of action and high-value targets by phase or critical events from G-2. • Conduct fires running estimate; organize and analyze facts. • Identify specified and implied tasks for fire support. • Translate status of fire support assets and resources into fire support capabilities, limitations, and vulnerabilities. • Analyze IPB products for fire support task development. • Develop draft fire support tasks with task, purpose, and effect. • Identify long-lead time fire support tasks.	•Fire support system status. • Specified targets from higher headquarters fire support IPB, for example, historic pattern analysis (point of origin and point of impact locations). • Fire support asset range arc depictions. • Fire support limitations and constrains. • Fire support portion of the mission analysis briefing. • Fire support-related input to the commander's critical information requirements.

Table 2-2. Division fires cell during mission analysis (continued)

MDMP STEP 2: MISSION ANALYSIS		
Division Staff	***Key FSCOORD and Fires Cell Actions***	***Fires Cell Output***
• Develop the initial information collection plan. • Update plan for the use of available time. • Develop initial themes and messages. • Develop a proposed problem statement. • Develop a proposed mission statement. • Present the mission analysis briefing. • Develop and issue initial commander's intent. •Develop and issue initial planning guidance. • Develop COA evaluation criteria. •Issue a warning order.	• Identify long-lead time fire support tasks. • Update the fires running estimate. • Provide input for restated mission, commander's intent, guidance and warning including: • Desired effects from fire support. • Tentative HPTs from among the high-value targets. • Attack guidance. • Allocation/positioning of fire support assets. • Sustainment for fire support. • Prepare, prioritize, approve and send preplanned ASRs • Receive enemy COA from G-2. • Receive high-value targets by phase or critical event from G-2.	• Initial fire support rehearsal guidance and times. • Commander's approval of initial fire support tasks or modification. • Update fire support input to the warning order after the mission analysis brief. • Fire support input to division commander's planning guidance. • Updated fire support-related operational timeline. • Updated fire support-related operational timeline. • Likely fires unit position areas. • Initial airspace requirements. • Send approved air support list to next higher headquarters, fires cell, or BCD.
ASRs – air support requests BCD – battlefield coordination detachment COA – course of action FSCOORD – fire support coordinator G-2 – assistant chief of staff, intelligence HPTs – high-payoff targets IPB – intelligence preparation of the battlefield		

COMMANDER'S INTENT

2-9. The *commander's intent* is a clear and concise expression of the purpose of the operation and the desired military end state that supports mission command, provides focus to the staff, and helps subordinate and supporting commanders act to achieve the commander's desired results without further orders, even when the operation does not unfold as planned (JP 3-0). The commander's intent is typically issued in a brief paragraph written by the command that includes:

- The purpose of the operation.
- Key tasks.
- Desired end state.

2-10. Fires personnel at all echelons must thoroughly understand the commander's intent and end state in order to design a plan that best supports the concept of operations and rapidly and effectively make adjustments to exploit advantages that arise. Throughout planning and execution, fires personnel continually advise the commander and staff on how to effectively employ fires to support the operation and achieve the desired end state.

COMMANDER'S GUIDANCE FOR FIRE SUPPORT

2-11. Commander's guidance is used to focus staff activities in planning and coordinating operations. The commander's guidance for fires provides the staff, fires personnel, and subordinate units with the general guidelines and restrictions for the employment of fires, desired effects and the planning and execution of targeting. The guidance emphasizes in broad terms when, where, and how the commander intends to integrate the effects of fires with the other capabilities available to the force to accomplish the mission. Commander's guidance recognizes the inherent capabilities of all available fires resources and is designed to use them to quickly gain the tactical advantage and effectively defeat the enemy. The commander's guidance includes priorities for support and how the commander envisions that fires will be fully integrated into the scheme of maneuver:

- Priority of fires is the commander's guidance to the staff, subordinate commanders, the fire support planning team, and supporting agencies to employ fires in accordance with the relative importance of a unit's mission.
- The CAS distribution decision is the ground commander's guidance for the employment of CAS assets among competing requirements. The senior ground forces commander (corps, JFLCC) makes a distribution decision for use of CAS; each commander should apply that guidance and make a distribution decision at their command level. CAS planning and execution is affected by the ground commander's distribution decision. The distribution decision only affects those sorties assigned as CAS missions that are provided to support the Army.

Note: JFLCC or senior Army commander's CAS and AI distribution responsibilities do not end with the publication of the ATO. During ATO execution the JFLCC still retains this authority and needs to be mindful of the changing maneuver priorities in order to quickly distribute or redistribute CAS and AI supporting ground force operations on a rapidly changing battlefield.

- When given the authority by the JAOC, the ASOC can re-task on-call air alert (also referred to as XCAS) or on-call ground alert (also referred to as GCAS) missions to fill immediate ASRs for CAS for evolving requirements. The FSCOORD, or chief of fires (performing the duties of the deputy FSCOORD), and ALO are integral to the process and advise the commander on the phrasing of the distribution decision for publication in the fire support plan (Annex D – Fires, Appendix 5 – Air Support). The CAS distribution decision provides anticipated availability of CAS for subordinate units and guides how the ASOC manages air sorties supporting the ground commander's operations. The ASOC and ALO should maintain awareness of the proposed sortie distribution for their respective ground commander. Before the ASOC sources any immediate ASRs, the ground commander or his designated authority will decide which immediate ASRs will be approved or denied. Considerations to apply to the CAS distribution decision include whether to support the main effort, supporting effort, or economy of force by using airpower vice preponderance of surface-to-surface fires capabilities.

Note: The JAOC or JFACC may delegate decentralized execution authority to the ASOC to launch, redirect, or re-target CAS missions providing a faster response time when or where air support is needed to support the ground commander's operations.

- A priority target in fires automation system processing is a target on which the delivery of fires takes precedence over all the fires for the designated firing unit or element. The firing unit or element will prepare, to the extent possible, for the engagement of such targets. A firing unit or element may be assigned only one priority target. The priority target designation may be based on either time or importance. The commander also gives specific guidance as to when the targets will become priority, the munitions to use, the accuracy required, and the desired effects. When not engaged in fire missions, firing units lay on established priority targets. Fire support personnel should note that, although massed fires may create the most lethal effect, fires with precision munitions may be the most effective means to engage the target mitigating the risk of collateral damage while creating the commander's desired effect.

2-12. After the commander's guidance has been issued, the targeting working group identifies HPTs and develops a draft HPTL for the G-3, assistant chief of staff, intelligence (G-2), and FSCOORD review. This list provides further guidance to the elements engaged in targeting and allows them to prioritize the acquisition and engagement efforts. The FSCOORD also finalizes:

- The allocation and positioning of fires assets.
- Plans for the provision of TA assets, survey, and meteorological support to subordinate units.
- Logistic support for subordinate units.

DETERMINE EVALUATION CRITERIA

2-13. Before beginning the war game, division staff planners develop evaluation criteria to measure the effectiveness and efficiency of fires contributions for each course of action (COA). They use these to compare courses of action during COA comparison. These criteria are listed in the fires running estimate and become the outline for the COA analysis subparagraphs. The FSCOORD, fires cell planners and targeting officers (hereafter referred to as the fire support planning team) develop the criteria for evaluating the effects of fires by using fires-specific criteria that allow them to explain the fires support-related advantages and disadvantages of each COA. Fires evaluation criteria that may help discriminate among various courses of action may include:

- Lead time required for implementing fire support tasks.
- How often information superiority must be achieved for the COA to succeed.
- The number of decision points that require fires.
- The cost of fires versus the expected benefits.
- The risk to friendly assets posed by enemy fires.

2-14. For CAS planners these could include:

- Timeliness.
- Accuracy.
- Flexibility.
- Mass.
- Desired effects.

COURSE OF ACTION DEVELOPMENT

2-15. As the staff begins the steps of COA development (see table 2-3 on page 2-7), the division staff, FSCOORD and fires cell planners must conceptualize how to best integrate fires into the developing courses of action. As the staff analyzes combat power, generates options, arrays initial forces and then begins to develop a scheme of maneuver, the FSCOORD and fires cell planners continue to contribute to this integrated planning process.

Table 2-3. Division fires cell during course of action development

Military Decision making Process STEP 3: COURSE OF ACTION DEVELOPMENT		
Division Staff	***Key FSCOORD and Fires Cell Actions***	***Fires Cell Output***
Assess relative combat power. Generate options. Array forces. Develop a broad concept. Assign headquarters. Develop COA statements and sketches. Conduct a COA briefing. Select or modify courses of action for continued analysis.	Assist G-2 and G-3 in developing the information collection plan and its support for targeting. Determine where to find and attack adversary or enemy fire support formations. Generate options. Identify HPTs in those formations. Refine fire support tasks. Plan assessment for fire support tasks, including the measure of performance and measure of effectiveness. Quantify the execution for fire support tasks. Analyze relative fires combat power. Ensure division staff considers all fire support aspects of combat power. Develop scheme of fires for each COA and assess risk, including fratricide. Nominate HPTs for each COA. Integrate information related capabilities. Array fires assets/resources needed to support each COA and propose generic fires organization for combat. Identify planned attack locations and sequence of attacks. Allocate assets to acquire targets. Allocate assets to engage targets. Allocate assets to assess targets. Ensure fires are integrated with movement and maneuver and other warfighting functions. Integrate triggers with maneuver COA. Prepare scheme of fires for each COA and sketch for each COA. Develop FSCMs.	For each COA developed include− Scheme of fires. Initial fire support coordination measures. Draft HPTL. Target list worksheet Draft fire support execution matrix. Target list or overlay. Draft observer plan. Draft target synchronization matrix or modified (HPTL, TSS, and AGM). Draft fires input to unit airspace plan. Draft risk management plan. Fires-related requirements for the information collection plan. Initial fire support tasks and the associated measure of performance and measure of effectiveness. Refined asset locations such as PAAs, WLRs. Refined FSCMs. Draft Annex D, Fires. Begin request of assets for reconnaissance and surveillance, CAS, information collection, and cyberspace electromagnetic activities. Determine radar positioning and sector search for all radars. Determine radar maintenance and cueing schedule.

AGM – attack guidance matrix CAS – close air support COA – course of action FSCMs – fire support coordination measures
FSCOORD – fire support coordinator HPTs – high-payoff targets HPTL – high-payoff target list
G-2 – assistant chief of staff, intelligence G-3 – assistant chief of staff, operations PAA – position area for artillery
WLRs – weapon locating radars

SCHEME OF FIRES

2-16. The division commander's scheme of fires and supporting employment guidance is critical to the development of the fire support plan. As such, it addresses not only the use of all available fires but their integration with the scheme of maneuver and facilitates the effective prosecution of HPTs. As a minimum, the scheme of fires should establish the basis for the employment of fires and supporting assets.

FIRE SUPPORT TASKS

2-17. A fire support task is a task given to a fire support unit or organization that supports the commander's scheme of maneuver. A key action by the FSCOORD during mission analysis is to develop draft fire support tasks with task, purpose, and effect. A fire support task is an essential element of the fire support plan.

2-18. The task states the supported maneuver task and the type(s) of effects the firing unit must provide for that phase of the operation. The task describes what fire support must accomplish to support the division operation. The effect identifies the desired result or outcome the delivered fires are to achieve. See ATP 3-60 and FM 6-0. As the FSCOORD and staff war-game that task during planning, they identify an asset to accomplish it, and describe the desired effect to be created by accomplishing of that task.

2-19. The purpose states the supported maneuver commander's purpose and the desired end state for the targeted enemy formation, function, or capability. The purpose describes the why of the fire support task. In this case why is in order to disrupt the enemy's ability to observe our breaching operation.

DEVELOPING FIRE SUPPORT TASKS

2-20. The purpose of the fire support tasks are to ensure that the maneuver commander's guidance for fires is accomplished. The audience for the fire support tasks is the maneuver commander and staff. The fire support tasks let the commander know that fires personnel understand and have specific tasks that accomplish the intent for fires. Fire support tasks drive the development of Annex D. The task describes what effects (for example, delay, disrupt, divert or destroy) fires must create on a target. The purpose describes why the task contributes to commander's objective. The effect quantifies successful accomplishment of the task. For more information on the development of fire support tasks see ATP 3-09.42.

2-21. Steps in developing a fire support task:

- Determine the critical event for the phase of the operation.
- Determine the conditions that must be set.
- Identify those events that can't be achieved through maneuver.
- Identify the particular asset available.
- Identify any critical ammunition requirements.
- Develop the task, purpose, and effect based on the targeting objective.

2-22. The FSCOORD, along with the fires cell determines the critical fire support event during a particular phase. For example, during the execution of offensive tasks the conduct of the breach is a critical event that requires fires to support the accomplishment of the task. During this process the FSCOORD, based on the initial commander's guidance for fires, determines that obscuration smoke will be needed to disrupt enemy observation of the breaching forces. The most efficient means to deliver the amount of smoke needed to conceal the breaching forces is from indirect fires. The FSCOORD determines that there is a 155mm cannon battalion available when the smoke is needed. Based on the analysis by the FSCOORD the fire support task is as follows:

- Task- Disrupt enemy observation of breaching forces.
- Purpose- To allow breaching forces to conduct the breach without being engaged by effective direct and indirect fire.
- Effect- Enemy unable to observe breaching forces until breach is complete.

2-23. Another example is a cannon FA battalion has been allocated to the DIVARTY and the fire support task is derived from the division mission-task statement as follows:

NOTE: Example Division mission task statement: At 172100ZAUGXX (when) 8th Division (who) delays (what) enemy force A along route RED (where) until 180500ZAUGXX in order to prevent enemy force A from interfering with the rapid crossing of 51st (U.S.) Infantry Division over the Blue River (why).

2-24. After being assigned this task, the division commander would give the staff planning guidance to include planning guidance for fires: "FSCOORD and fires cell planners use fires to delay enemy movement

along route RED from 172100ZAUGXX until 180500ZAUGXX to prevent enemy forces from interfering with the river crossing". The FSCOORD and fires cell planners then develop fire support tasks.

- Task - Strike enemy forces along route red.
- Purpose - Delay interference with the 51st (U.S.) Infantry Division.
- Effect - 51st (U.S.) Infantry Division rapidly crosses the blue river.

2-25. One or more fire support tasks may be developed for each phase of an OPLAN or OPORD. Taken together and considered sequentially the fire support tasks represent a summary of the scheme of fires supporting the OPLAN or OPORD. The scheme of fires paragraph (subparagraph 3e) in the OPLAN or OPORD must be concise but specific enough to clearly state what fires are to accomplish in the operation. The overall paragraph organization should mirror that of the scheme of maneuver paragraph. If the maneuver paragraph is phased or otherwise organized, the scheme of fires paragraph should take on the same organization.

2-26. Fire support planners can use the memory aid PLOTCR to describe the task considerations for a given target. The considerations are the **P**urpose of the planned fires, the target **L**ocation, **O**bserver identification, the **T**rigger event or method to initiate target engagement, **C**ommunication means among all agencies to observe the target engagement, and the allocated **R**esources for completion of a task or target engagement. Again, the commander adjusts the format to meet the needs of providing the necessary information to accomplish the task.

2-27. Fire support planners can also use another format for an assigned task using the memory aid TTLODAC. The format may be altered as necessary. The commander given the responsibility to complete all or a portion of a task plans in greater detail how the task will be accomplished. The planning detail typically increases, as the responsibility for task execution is refined at each echelon. Leaders must ultimately identify the timing and controls to ensure that targets are effectively engaged. Detailed planning and execution is assisted by using this planning tool. There is no prescribed format but items for consideration, particularly for a fire support or FA task, might include the **T**arget description, **T**rigger time or event, **L**ocation of the target (may be exact or general), **O**bservers, **D**elivery system, **A**ttack guidance, and **C**ommunications. A task may also require identification of various control measures (such as FSCMs, ACMs, and maneuver control measures) and any other considerations. The format can be adjusted as necessary.

ASSESSMENT

2-28. As COA development continues, the fire support planners consider how to assess fire support effectiveness. Assessment occurs throughout the operations process and is continuous. The fire support planners determine:

- Preliminary measure of performance (MOP) and measure of effectiveness (MOE) for each fire support task, including targets engaged using fire support.
- The information needed to make the assessment.
- How to collect the information.
- Who will collect the information?
- How the commander will use the information to support decisions.

2-29. As the division staff and fires cell planners build the COA, they attempt to determine the MOP to assess how well the task has been executed and MOE to assess whether desired effects have been created:

- A *measure of performance* is an indicator used to measure a friendly action that is tied to measuring task accomplishment (JP 3-0).
- A *measure of effectiveness* is an indicator used to measure a current system state, with change indicated by comparing multiple observations over time (JP 5-0).

2-30. By determining the MOP and MOE, the staff is better able to determine methods and feasibility for selecting a method for generating desired effects. The fire support, information operations, and EW system(s) tasked can thus better plan for success. In determining effects, the staff must focus on what must be accomplished to create the desired effect, not what can be accomplished. If the staff determines they cannot create the desired effects with the assets allocated, they must rework the method or request additional assets.

By quantifying success, the delivery assets and observation/acquisition assets understand what qualifies as successful completion of the task.

2-31. The division commander's approved COA drives the information required for the fire support planning team to assess fire support effects. The fire support planners submit these information requirements to the G-2 for validation and inclusion in the information collection plan and the appropriate sections of the OPLAN or OPORD. Assessing all tasks during execution may be impractical. At a minimum, the fire support tasks that support the decisive operation are assessed. For more on assessment see ADRP 5-0.

ASSESSMENT OF ASSOCIATED RISK

2-32. The assessment of fire support associated risk during COA development and COA analysis focuses primarily on hazards related to executing fire support tasks. However, the fire support planners assess all hazards as they emerge. They also monitor identified hazards and evaluate the effectiveness of controls established to counter them.

2-33. The fire support planning team examines each COA and its associated scheme of fires to determine if they contain hazards not identified during mission analysis. The planners then develop controls to manage these hazards, determine residual hazards and prepare to test the controls during COA analysis. They also coordinate controls with other staff as necessary.

2-34. The fire support planning team considers two types of tactical and accident hazards associated with performing fire support tasks:

- Those associated with the fire support concept itself.
- Those from other aspects of the division concept of operations that may affect execution of fire support, to include airspace conflicts or issues.

2-35. The fire support planning team identifies as many of these hazards as possible so the division commander can consider them when making decisions.

2-36. Thorough planning can reduce, but will never eliminate, unintended consequences. The fire support planning team identifies possible unintended consequences and focus on those most likely to affect mission accomplishment.

2-37. Since adverse effects of military operations on the environment and civilians can influence fire support, the fire support planning team considers the effects of fire support related hazards on the local populace and infrastructure as well as on friendly forces both ground and air. The fire support planners assess these hazards, develop controls, determine residual risks, and advise the division commander on risk mitigation measures.

2-38. The division commander alone accepts or rejects risk. The fire support planning team advises the division commander concerning risk associated with fire support related hazards and recommends fire support tasks as controls to mitigate it. Fire support risk mitigation may include assistance from other division staff sections. When appropriate, the fire support planning team works together with information collection planners to convert risk mitigation measures into fire support or information collection tasks. These tasks are assigned to units or placed in the fire support or information collection annex coordinating instructions. Risk control measures that apply to the entire force are placed in the OPLAN or OPORD coordinating instructions.

2-39. The FSCOORD and fires cell planners produce a list of fire support related hazards and assessments of their associated risks. This list becomes the fire support input to the G-3 risk assessment. For more on risk assessment see ATP 5-19.

REFINE FIRE SUPPORT TASKS

2-40. During COA development the FSCOORD refines the fires support tasks for each COA developed. In conjunction with the G-2, G-3 and other staff the FSCOORD determines the best fire support task based on the scheme of maneuver for each COA and the enemy situation.

PLAN HOW TO ACCOMPLISH EACH FIRE SUPPORT TASK

2-41. The G-2, G-3, FSCOORD and fires cell planners all work together as they determine how to execute each fire support task. They determine what unit or element can best execute the task based on the scheme of maneuver, the capabilities of acquisition assets, and the priorities of the information collection plan. In the case of division and FA battalion assets, they must also plan the operational requirements for getting them into position to conduct the execution of fires. This interaction also allows the staff to plan, coordinate, and synchronize the information collection plan. This includes development of a proposed organization for combat for division fires assets.

Allocate or Request Delivery Assets and Build an Attack Plan

2-42. An *attack guidance matrix* is a targeting product approved by the commander, which addresses the how and when targets are engaged and the desired effects (ATP 3-60).

2-43. If the division commander has not directed how to engage a particular HPT, the staff builds the plan to create the effects the commander has directed and incorporates it into the AGM.

2-44. The targeting officer with input from the targeting working group develops an AGM and may develop a target synchronization matrix for each COA to determine when to execute fires, in conjunction with appropriate aspects of information collection capabilities. As the staff discusses and builds the options, they can resolve SEAD, timing, and other coordination issues.

Integrate Fires Events or Actions with Maneuver Planning

2-45. At the division echelon and below, fires most often provide decisive close support or set conditions that permit the maneuver force to move to a position where it can dominate the enemy. The timing of fires with maneuver is essential for success. The FSCOORD and fires cell planners must fully understand the relative timing of maneuver and fires and establish triggers that reflect this timing. At a minimum, they must develop initial triggers they and the staff can refine during COA analysis (war gaming).

2-46. A properly planned target has an observer and a trigger, and may be linked to a named area of interest (referred to as an NAI). The trigger may or may not be a decision point on the decision support template, but without a trigger, an observer has a low probability of facilitating the engagement of the target at the correct time. Ultimate responsibility for ensuring a target has an observer and a trigger lies with the maneuver commander who is assigned the target. Observer-trigger planning must be a formal process with the plan included in the fire support execution matrix. It must be synchronized with the scheme of maneuver to identify the implied tasks (for example, routes for and security of observers), all of which must be addressed and rehearsed. Planning redundancy of observers is an implied task critical to success. Another is ensuring observer responsibility is placed at a level that can be resourced adequately to perform the mission. A multitude of targets does not add flexibility to a plan, only volume and complexity.

Joint Air Support Planning

2-47. There are two distinct types of air operations for engaging enemy land forces with airpower – AI and CAS. *Air interdiction* are air operations conducted to divert, disrupt, delay, or destroy the enemy's military surface capabilities before it can be brought to bear effectively against friendly forces, or to otherwise achieve objectives that are conducted at such distances from friendly forces that detailed integration of each air mission with the fire and movement of friendly forces is not required (JP 3-03). *Close air support* is air action by manned or unmanned fixed-wing and rotary-wing aircraft against hostile targets that are in close proximity to friendly forces and that require detailed integration of each air mission with the fire and movement of those forces (JP 3-0). Predominant weapons systems used in AI and CAS operations include aircraft equipped with cannons, bombs, standoff missiles, rockets, and EW systems. Air assets, space platforms, and SOF provide information collection as well as target cueing, navigation aids, and battle damage assessment (BDA). Each weapon system has unique characteristics that should be considered based on the nature of the threat, targets to be attacked, desired effects, and environmental conditions.

NOTE: Army attack aviation does not perform CAS: Army attack aircraft, in close coordination with the maneuver forces in contact, attack to destroy, defeat, disrupt, divert, or delay enemy forces to enable the combined arms team to seize, retain, or exploit the initiative. These attacks can be either hasty or deliberate. See FM 3-04.

2-48. The following missions may be tasked in the ATO to support Army operations. (NOTE: Mission types are not tied to supported or supporting command relationships)

- AI is an air mission scheduled to strike targets in response to target nominations approved on the JIPTL.
- Ground Air Interdiction (referred to as GAI) is an AI mission that is sitting on the ground, awaiting tasking, in an alert status, and is a mission-type subset of AI. Ground AI missions are used to identify an on-call mission placed on ground alert to provide responsive AI throughout the theater in response to emerging targets or for targets whose location has not been confirmed prior to ATO execution. NOTE: As with any ground alert, if the emerging targets are 'fleeting' targets, the time to notify the crew, launch the aircraft, and transit to the target location may generate a need for a more responsive alert option, that option is Airborne Alert AI which is (referred to as XAI).
- Airborne alert AI is another mission-type subset of AI. Airborne alert AI is used to identify an on-call mission that is initially tasked to an ACM that provides airpower to a designated area versus a preplanned target. Airborne alert AI is more responsive than ground AI, as the aircraft are already in the air, thus is a preferred method for dealing with rapidly emerging, and fleeting targets.
- A strike coordination and reconnaissance mission (referred to as SCAR) is flown to expedite the follow-on strikes conducted by aircraft flying AI, airborne alert AI, ground AI or attack missions on the ATO. Very simply, the strike coordination and reconnaissance will hunt the targets, so the strike assets don't have to. Thus, allowing the attacking aircraft to more rapidly engage their assigned targets. The area assigned to the strike coordination and reconnaissance is normally defined by a kill box where targets are known or suspected to exist, or where mobile enemy units have relocated or are transitioning. WARNING: strike coordination and reconnaissance, as a subset of AI, is not designed for targets in proximity to ground forces which require detailed integration with fire and maneuver. For more information on strike coordination and reconnaissance see ATP 3-60.2.
- CAS is an air mission scheduled to provide air support to engage a specific target in response to preplanned or immediate ASRs in close support of ground forces. (WARNING: Targets for CAS do not go through the same target nomination process as targets for AI; CAS missions require detailed integration (synchronize CAS in time, space and purpose) at the tactical level with the supported ground forces and preferably require a certified and qualified terminal attack controller).

NOTE: On-call air missions ground alert CAS and airborne alert CAS (referred to as GCAS and XCAS) on the ATO are a responsive way to resource immediate ASRs and are the first choice for the ASOC to satisfy dynamic requirements without redirecting scheduled missions and affecting planned operations.

- Ground Alert CAS is a CAS mission that is sitting on the ground, awaiting tasking, in an alert status, and is a mission-type subset of CAS. Ground alert CAS is used to identify an on-call CAS mission placed on ground alert status to provide responsive air support to ground forces. Ground alert CAS missions may be changed to airborne alert CAS as the situation dictates for increased responsiveness (as with ground AI and airborne alert AI discussed in the NOTE above).
- Airborne Alert CAS is another mission-type subset of CAS. Airborne alert CAS is used to identify an on-call air mission on airborne alert status, tasked to hold at an ACM (for example, a restricted operations zone [also called a ROZ] for CAS), in the vicinity of ground forces to provide the most responsive air support to counter enemy resistance.
- Forward Air Controller (Airborne) (referred to as FAC[A]) missions provide terminal attack control for CAS aircraft. FAC(A)s are specially trained aviation officers qualified to provide

delivery clearance to CAS aircraft. FAC(A) supplements and enhances the ground JTAC capabilities, and operates as an extension of the TACP.

- Tactical Air Coordinator (Airborne) (referred to as TAC[A]) missions provide communications relay between the TACP and attack aircraft, as well as other agencies of the theater air control system. The TAC(A) ensures the attacking CAS aircraft maintain linkages to the TACP in instances of extreme distances or terrain interfering with radio communications.

2-49. CAS planning is an integral part of the MDMP and is crucial in developing the overall division fire support plan. (See JP 3-09.3) During MDMP the division commander, FSCOORD and fires cell planners must ensure that CAS planners from the TACP understand the division commander's desired effects, schemes of maneuver and fires, control requirements, and specific rules of engagement. Because the joint forces air component commander determines the ordnance CAS aircraft will carry, once the MDMP and the targeting boards are complete, it is critical that the division commander clearly articulates the desired targets and desired effects on those targets. The division commander presents target nominations to the JFLCC. The division commander needs to provide sufficient information outlining the desired effects, rationale and purpose and any external or self-initiated tactical restrictions or limitations to the approving authority of the division's ASRs. Failure to develop this level of detail will result in the division's target nominations and CAS requirements not competing well against the requirements of other divisions when the JFLCC develops the overall JFLCC target nomination list and ASRs for CAS.

2-50. The division commander must also provide the risk assessment determination, identifying specific guidance for types of terminal attack control. A major challenge in the process is integrating and coordinating air support with other airspace users and surface-to-surface fires. The JAGIC in coordination with other members of the fires cell and ASOC can help address this challenge. For information on the JAGIC, see ATP 3-91.1. The overarching goal is to integrate all supporting air assets with fires and maneuver to create the desired effects without suspending the use of indirect fire assets, CAS, AI, UAS, or Army attack aviation or unnecessarily delaying the scheme of maneuver. Effective CAS requires detailed planning to include: commander's intent and desired effects, CAS distribution decision (which unit has priority for CAS), positioning of JTACs and JFOs, synchronization of CAS with surface-to-surface fires, observation plan, and unit airspace plan. During this step, CAS planners with the TACP:

- Analyze relative combat power.
- Generate options used to develop possible courses of action.
- Develop the CAS employment concept for best use of CAS aircraft.
- Develop detailed control plan (Types of control, frequencies, call-signs).
- Develop observation plan for placement of JTAC, JFOs, or other terminal guidance operations assets. Consider FAC(A) or TAC(A) aircraft requirements.
- Coordinate with the ALO in developing engagement areas, target areas of interest, triggers, objective areas, obstacle plan, and movement plan.
- Integrate CAS into the airspace plan; submit airspace control measures requests (referred to as ACMREQs) for ACM required in the theater ACO.
- Prepare COA statements and sketches (battle graphics).

2-51. All division target nominations to be prosecuted by AI are prioritized by the JFLCC. All components turn in their target nomination lists to the target effects team within the JAOC. The personnel in the target effects team, with the assistance of the component liaisons (for example the BCD, and SOLE) compare the target nomination lists to the targeting guidance, objectives and tactical tasks documented in the AOD that the JAOC publishes for a specified period of time, normally one ATO period of 24 hours, to identify the priority of use of joint air assets. The Army sends preplanned ASRs with HPTs to the BCD at the JAOC to be considered for inclusion in the JIPTL. The BCD is the ARFOR commander's representative while working in and among the JFACC's staff in the JAOC. The BCD receives, submits, and advocates support for the ARFOR commander's ASRs and target nominations. For more information on the BCD see ATP 3-09.13.

2-52. Army target nominations must include purpose or rational to validate each target with the approved and prioritized objectives and tasks associated with each ATO period. It is more likely to get target nominations approved when properly aligned with the AOD tactical tasks and annotated in the preplanned ASR.

2-53. Target nominations must include desired effects to give a clear picture to the supporting air components in order to exploit their unique capabilities and weapons systems, through proper weaponeering (matching the target, desired effects, aircraft, and munition capabilities). Air missions are tasked to prosecute targets that are approved on the JIPTL based on proper matching of aircraft to target and the availability of air assets. Once the JIPTL is complete, this matching of aircraft to targets results in the ATO. Following the target effects team, the BCD will know which JFLCC targets will or won't be serviced in the ATO. The BCD will make this information known to the JFLCC, and thus the Division can determine which of its nominations will or won't become actual targets on the ATO, prior to the execution of the ATO by simply asking the JFLCC. Failure to 'follow-up' on division target nominations by the division fires cell will delay the division commander knowing what will or won't be attacked from his original target nomination list.

2-54. Identify airspace requirements for supporting friendly aircraft to avoid potential conflicts with the scheme of fires and to notify other joint airspace users of planned operations that require airspace use. Submit ACMREQs with preplanned ASRs to get ACM requirements approved and published on the ACO. Typically the division should identify a minimum-risk route over the AO to accommodate transitioning AI mission aircraft. The division coordinates a division ROZ/CAS holding area for CAS mission aircraft. Plan formal airspace coordination areas to be published on the ACO to identify airspace in target areas in which friendly aircraft are relatively safe from friendly surface fires. Contact points may be selected, requested and published on the ACO or unit airspace plan to assist with CAS aircraft routing and where an air mission leader makes radio contact with a controlling agency such as a JTAC.

ANALYZE RELATIVE COMBAT POWER

2-55. By analyzing relative combat power, the division staff and the fire support planning team determines friendly and opposing force strengths and weaknesses, and determines how to best meet the commander's objective. The fire support planners ensure that the division staff considers fire support aspects of combat power (for instance, CAS aircraft against anticipated enemy surface forces, including air defense threats).

Generate Options

2-56. After determining available courses of action and forms of operations, the division staff generates options for meeting mission objectives. As many feasible options as time allows are developed as courses of action. The fire support planning team assists the staff in determining decisive points and supporting efforts, on elimination or modification of COAs, and consideration of the advantages and disadvantages of fire support for each possible COA.

2-57. The fire support planning team also advises on the integration and synchronization of fire support with all other warfighting functions. The planners help to determine which desired effects might be best generated by fires in conjunction with the other warfighting functions. An example is whether to use FA assets for military deception operations instead of using them to weight the decisive operation. The division staff considers these tradeoffs when generating options and reviews them during COA analysis.

Array Initial Forces

2-58. The fire support planners array the fire support assets needed to support each friendly COA and propose fires organization for combat for each COA. The fire support planning team ensures the division staff considers the impact of available fire support assets and resources on force ratios and help determine initial placements.

2-59. Division planners also consider the deception plan during this step. Because aspects of it may affect target selection and unit positioning; the staff considers major elements of the deception plan before developing courses of action.

2-60. Division planners also integrate fires airspace use with manned and unmanned aircraft at this step. The fire support planning team works with airspace, aviation and Air Force planners to eliminate airspace conflicts and reduce airspace risk to acceptable levels.

Develop the Concept of Operations

2-61. The division commander's intent, visualization, concept of operations and guidance for fires is critical to the development of the fire support plan. As a minimum, the scheme of fires supporting the concept of operations should establish the basis for the employment of fires.

2-62. Using the outputs from the mission analysis, the division G-3, FSCOORD and fires cell planners consider what fires assets and resources to use and develop the supporting scheme of fires for each COA. A COA may include one or more ways to generate the division commander's desired effects.

2-63. The scheme of fires states how the division commander will integrate fires to accomplish the mission. The scheme of fires is linked to and is simultaneously developed with the COA for the overall operation. The scheme of fires identifies fires priorities by critical event, phase, or unit and area. The scheme of fires focuses fires on the COA's decisive point, or on fire support to shaping operations that allow the division commander the freedom to effectively apply combat power at the decisive point.

2-64. As the scheme of fires is developed, the division fire support staff determines how to best position and use fires assets throughout the operation. The objective is to ensure that fires priorities are consistent with the commander's intent and resources are available when and where needed.

2-65. The first priority of fires is to the decisive operation. The decisive operation determines the outcome of a major operation, battle, or engagement. It leads directly to the accomplishment of a commander's mission. Commanders typically identify a single decisive operation, but more than one of the division's subordinate units may play a role in a decisive operation. The decisive point may shift during the execution of the operation in order to exploit an enemy weakness.

2-66. Tools such as the HPTL, TSS, attack guidance and target synchronization matrix link fire support assets through targeting to create effects. See chapter 3 for examples.

Engagement Area Development

2-67. Engagement area development occurs in the MDMP. *Fire support planning* is the continuous process of analyzing, allocating, and scheduling fires to describe how fires are used to facilitate the actions of the maneuver force (FM 3-09). Fire support planning within engagement area development is a critical supporting piece of the division OPLAN. The engagement area is an area in which the commander intends to trap and destroy an enemy force with massed fires of all available weapons. The fires planning during the development of an engagement area is vital to achieving the commander's intent. The process compels the FSCOORD and fires cell planners to consider such factors as the number of indirect fire assets available, the training proficiency of the observer and firing unit, the enemy's direction and rate of march, trigger and intercept points, terrain analysis, anticipated enemy actions, and the amount of time the enemy can be expected to remain inside the engagement area. The steps of the engagement area development process are listed in table 2-4.

Table 2-4. Engagement area development

Step 1	Visualize how the enemy will or might attack.
Step 2	Select where and how to engage the enemy.
Step 3	Position forces (aviation and indirect fire systems) to engage the enemy.
Step 4	Position obstacles to support direct fire.
Step 5	Plan indirect fires to support direct fire and obstacles.
Step 6	Complete the plan, select and prepare final positions, site obstacles, and triggers.
Step 7	Rehearse.

Trigger Development

2-68. Triggers are a physical point on the ground, or an action, or event. During the offensive tasks, a trigger is often a maneuver action or event. In the defense, a trigger is more often a physical spot on the ground. See table 2-5 for the suggested sequence for trigger development.

Table 2-5. Trigger development

Step 1	Determine the position on the ground that you want fires to engage the enemy, for example, the impact of high explosive rounds on target or location of illumination rounds employed at night to discover a possible threat.
Step 2	To engage a moving target, determine the enemy rate of movement. This may be done by estimation, on the basis of past experience, from doctrinal literature, or from scout reports of enemy speed.
Step 3	Determine the time of flight of the rounds from the weapon system firing the mission.
Step 4	Determine the processing time. Processing time is the time required from the call for fire to rounds being fired from the weapon system.
Step 5	Determine the total mission time. The total mission time is time of flight plus processing time.
Step 6	Place the trigger point the required distance from a planned target location based on the following: {total mission time x speed of enemy = distance}.

2-69. The division staff recommends forces and headquarters to execute each COA. When approved, these assignments become the task organization. The FSCOORD and fires cell planners identify units to perform fire support tasks and make task organization recommendations based on fires requirements. They tailor employment of fire support assets to mission requirements and type of operation and consider how best to:

- Task-organize and clarify responsibilities and command and support relationships.
- Minimize fratricide risk.
- Synchronize combat power at decisive points.

ASSIGN HEADQUARTERS

2-70. The division FSCOORD and fires cell planners make task organization recommendations based on the fires capabilities of each headquarters and fire support resources. The fires running estimate, including the vulnerability assessments, provide information needed to support any fires related recommendations. Another consideration is the experience in delivering fires of leaders in the headquarters.

DEVELOP COURSE OF ACTION STATEMENTS AND SKETCHES

2-71. The G-3 prepares a COA statement and supporting sketch for each COA for the overall operation. Together, the statement and sketch cover who, what, when, where, how, and why for each subordinate unit. They also state any significant risks for the division as a whole. The fire support planning team provides fire support input to each COA statement and sketch. At a minimum, each COA statement or sketch should include the scheme of fires. This statement may identify fire support tasks for the COA. The sketches:

- Portray how fires will assist in mission success.
- Provide an overview of fire support capabilities, limitations, and requirements.
- Show the scheme of fires and information such as fire support coordination measures (FSCMs), CPs, and displacement. The fires cell planners should consult with the FA battalion S-3 to verify that the information is complete prior to briefing.

2-72. *Fire support coordination* is the planning and executing of fire so that targets are adequately covered by a suitable weapon or group of weapons (JP 3-09). A *fire support coordination measure* is a measure employed by commanders to facilitate the rapid engagement of targets and simultaneously provide safeguards for friendly forces (JP 3-0).

2-73. The desired fires cell output for COA development is a draft fire support plan for each COA, branch, or sequel. Fire support tasks should be clearly identified. In some cases, the fire support plans may not change significantly to support different courses of action.

Scheme of Fires and Scheme of Maneuver

2-74. The fires paragraph together with the scheme of maneuver, describes how the division as a whole will accomplish the mission and meet the division commander's intent. It provides the sequence of fires tasks and outlines (the) who, what, where, when, and why for each fire support task needed for the operation.

Information Collection Plan

2-75. Although the fires planners are not individually responsible for creating the information collection plan, they do assist the G-2 and G-3 in its development. The fire support planning team reviews the acquisition plan to detect, track, and attack the HPTs in the fires plan, and related reconnaissance, surveillance, and TA assets supporting the fire support tasks. They must then identify the fires related assets in the information collection plan that must be repeated or explained in more detail in the fire support plan.

Initial fire support plan

2-76. The initial fire support plan includes tasks (with associated MOP and MOE), the draft target list worksheet, target synchronization matrix (or modified target synchronization matrix), fire support execution matrix, initial FSCMs, and plans for risk management, observation, CAS, and airspace control.

Target List Worksheet

2-77. The DA Form 4655 *Target List Worksheet* facilitates manual fire planning in the division fires cell and FA battalion CP if automated systems are not available. The DA Form 4655 is a preliminary listing of all targets and their descriptions from which the fires cell and FA battalion targeting officers can select and plan. ATP 3-09.30 contains the instructions for preparing the DA Form 4655.

Target Overlay

2-78. The target overlay may be used to supplement the DA Form 4655. The overlay is a graphical representation using standard military symbols. Targets are plotted on the overlay by symbols and target numbers. Fires assets supporting the maneuver unit, as well as all FSCMs, should be plotted on the overlay. The overlay is used as a tool to:

- Resolve duplication of targets.
- Integrate the scheme of fires with the scheme of maneuver.
- Determine the most appropriate unit to engage the target.

2-79. If necessary, the division fires cell and supporting FA battalion CP personnel resolve conflicts due to technical fire control considerations using the FSCOORD's initial schedule of fires. Schedules of fire may be prepared for any circumstance depending on the situation. Some schedules that may be prepared include:

- Groups.
- Series.
- Programs.
- Smoke and Illumination.
- Preparations.
- Counter preparations.
- Harassing.

Scheduling Worksheet

2-80. If AFATDS is not available, a separate DA Form 4656 *Scheduling Worksheet* is prepared for each schedule of fire. For more information on the DA Form 4656 see ATP 3-09.42. It is the fire planner's tool for organizing targets into specific schedules. The DA Form 4656 provides the following information:

- A specific sequence during which the targets scheduled will be engaged.
- Targets requiring more than one volley. These will be scheduled at the sustained rate of fire for the weapon system being used.
- The total expenditure of ammunition by each firing unit on each target.
- The shell-fuze combination for each target if it deviates from the standard of high explosive- quick fuze.
- Any on-call targets that are to be engaged.
- Any special instructions.

- The fires assets available.

2-81. Unless otherwise indicated in the REMARKS column, all targets will be engaged with high explosive-quick fuze. For planning purposes, the schedule reflects time of impact for all targets. Targets that appear on the target list worksheet but do not appear on the scheduling worksheet are on-call.

Groups of Targets

2-82. List groups of targets on the DA Form 4656 see figure 2-1. Groups of targets normally are fired on-call of the supported unit. Schedule groups so that initial fires strike the targets simultaneously. On the top line of the DA Form 4656, enter the group number. Below the group number, list the targets of the group opposite the firing unit assigned the targets. Below each target number, show the number of rounds to be fired. No line or dot is drawn between the target number and the ammunition. More than one group can be scheduled on the same DA Form 4656.

NOTE: Scheduled fire missions that affect other joint airspace users can be published on the ATO as scheduled fires. Special Use Area and Surface-to-Surface Missile System can be published on the ACO for airspace.

(Groups for 53d DIVARTY OPORD 20)

SCHEDULING WORKSHEET

For use of this form, see ATP 3-09.42; the proponent agency is TRADOC.

SHEET 1 OF 1

LINE NO	ORGANIZATION AND CALIBER	FIRING UNITS	(D1Y)	(D2Y)	REMARKS
1	6-14 FA (155, SP)	A	AB4074 24 (a)	AA4108 30 (a)	(a) 50% VT
2		B	AB4083 24 (a)	AA3251 30 (a)	
3		C	AB4123 24 (a)		

DIVARTY – division artillery
FA – field artillery
OPORD – operations order
SP – self-propelled
VT – variable time (proximity)

SAMPLE

Figure 2-1. DA Form 4656 scheduling groups of targets (example)

Series of Targets

2-83. Series are planned by the fire support planning team or subordinate and supporting unit fire support officers to support the division commander's scheme of maneuver. It may be executed on-call or at a specific time or event. It is scheduled to start at zero. Once a series is begun, targets and groups within the series are fired in a predetermined time sequence. Simultaneous engagement of targets in a group within a series is as requested by the initiator or as determined by the fires planner. Engagement is based on the nature of the targets and the requirements of the division commander. Groups need not be fired as groups when fired as part of a series unless requested. As with groups, manual planning and scheduling of a series of targets can be a time-consuming process and may require fires from supporting FA units. Prepare a DA Form 4656 for each series of targets requested (see figure 2-2 on page 2-19). For more information on filling out the DA Form 4656 ATP 3-09.42.

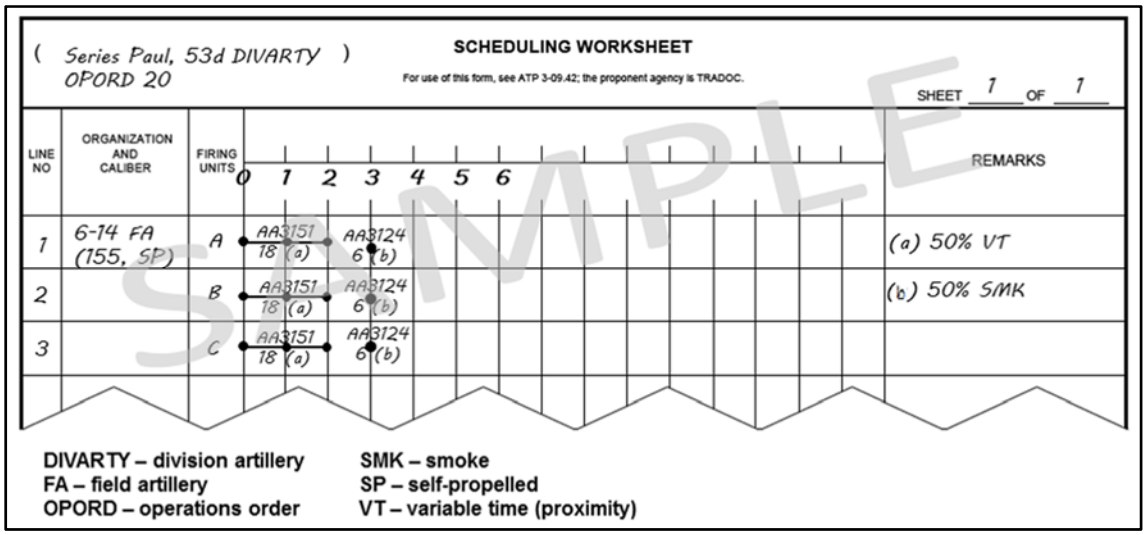


Figure 2-2. DA Form 4656 scheduling a series of targets (example)

Programs

2-84. Each type of program is scheduled starting at zero and extending as long as needed. A line indicates duration of fires. A dot indicates a single volley impacting simultaneously at a given time (for example the single volley may be a battery, battalion, or FAB volley). Once a program is initiated, targets within the program are fired in a predetermined sequence as shown in the schedule. Normally, the lowest echelon that designates and plans programs of targets is the FA battalion. There are no special graphics associated with a program of targets. Programs appear on the DA Form 4656 and schedules of fires.

Smoke and Illumination

2-85. Some targets have a specified duration of fire, but the ammunition requirements are unknown, for example, smoke and illumination targets on which expenditures are affected by wind speed and direction. To complete the illumination or smoke schedule, fire support planners:

- Indicate by a horizontal line, the time on target and duration of fire.
- Place the target number above this line.
- Below the line, center a subscript keyed to a remark in the **REMARKS** column that shows the method of engagement (for example, two-gun illumination, lateral or range spread, first rounds white phosphorus and hexachloroethane smoke, succeeding rounds hexachloroethane).

NOTE: When scheduling smoke, back off one minute to allow for buildup time (if using hexachloroethane only and not white phosphorus for initial rounds). Buildup time is not to be used when firing on the same target. The division commander must realize that because of weather, smoke fires cannot have guaranteed effects. When asking for smoke, the commander must be explicit in his intention. The fire support planning team must specifically look at alternative methods of achieving the intention if the smoke is not effective. This can be done by planning on-call high explosive munitions to suppress selected areas (see figure 2-3).

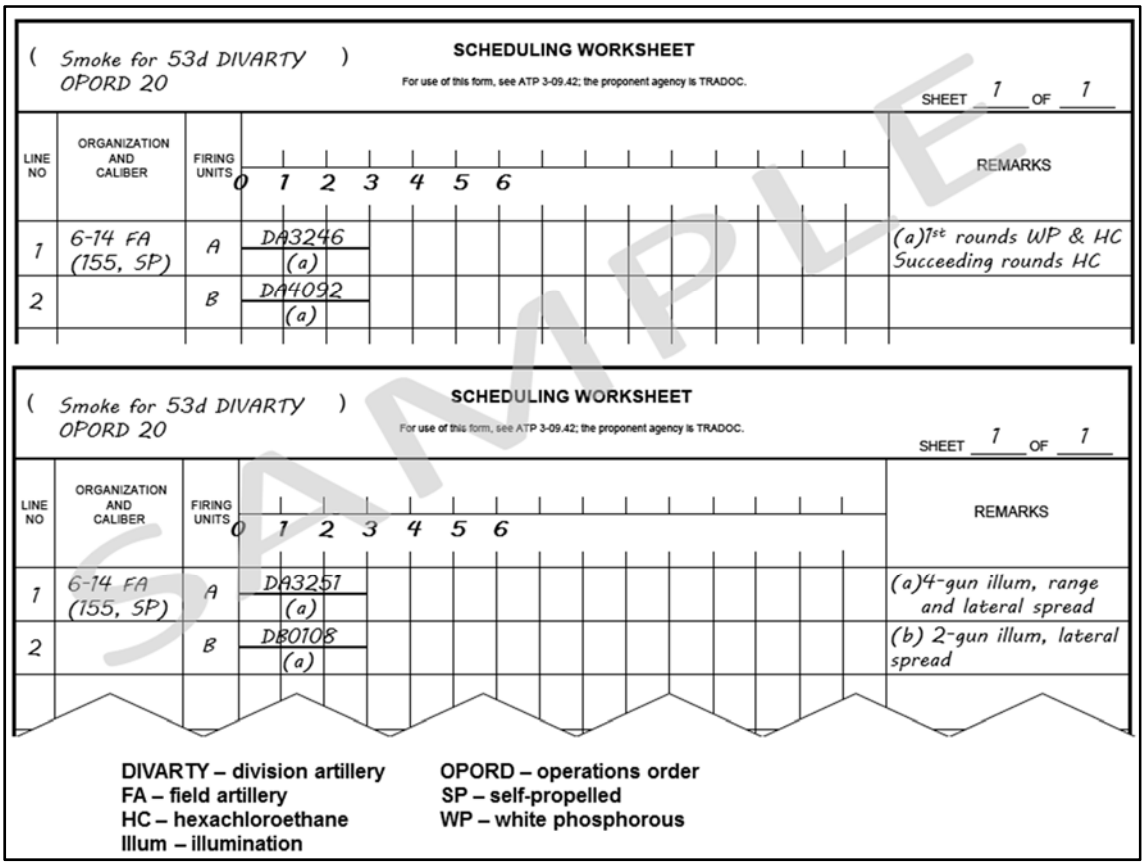


Figure 2-3. DA Form 4656 scheduling smoke and illumination (example)

Fire Support Execution Matrix

2-86. The fire support execution matrix is a concise planning and execution tool that shows the many factors of a fires plan. This matrix helps the fires personnel and the commander understand how the fire plan supports the scheme of maneuver. The *fire plan* is a tactical plan for using the weapons of a unit or formation so that their fire will be coordinated (FM 3-09). It is a valuable planning tool for both the offense and the defense. When approved, the matrix becomes the primary fire support execution tool. The matrix can provide a detailed portrayal of the portions of the fires plan that each division subordinate commander, fires cell, fire support officer, and observer is responsible for executing. It can graphically communicate the details of the fires paragraph and ties executors to targets relative to time or events of the scheme of maneuver. The format for the fire support execution matrix and techniques for its development and use vary according to individual unit tactical standard operating procedure (SOP). The matrix is typically set up with the maneuver elements shown along the left side and different phases (phase lines, events, or times) of the mission along the top. Phases should correspond to phases established on maneuver execution matrices. As a general rule, don't make the matrix any more complicated than circumstances warrant. Table 2-6 on page 2-21 is an example of a fire support execution matrix. For more information on developing a fire support execution matrix see ATP 3-09.42.

Table 2-6. Fire support execution matrix (example)

UNITS	***PHASE I (Description)***	***PHASE II***	***PHASE III***	***PHASE IV***
	FSCMs: POF: POA:	FSCMs: POF: POA:	FSCMs: POF: POA:	FSCMs: POF: POA:
Division, BCT, Battalion, or Company	TGT #: Purpose: Location: Observer (P/A): Trigger: Delivery Means(P/A): Effect:	TGT #: Purpose: Location: Observer (P/A): Trigger: Delivery Means(P/A): Effect:	TGT #: Purpose: Location: Observer (P/A): Trigger: Delivery Means(P/A): Effect:	TGT #: Purpose: Location: Observer (P/A): Trigger: Delivery Means(P/A): Effect:
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Note: Add additional rows for subordinate units and additional columns for phases as necessary.				
FA Organization for Combat:	Other Assets: Mortars: Army aviation: CAS: Electronic attack:		Ammunition available:	
Communications: P: A: C: E:	HPT or attack guidance:		Coordinating instructions: For example, target refinement cutoff time.	
Restrictions:	Target blocks:			
(A) – alternate BCT – brigade combat team CAS – close air support FA – field artillery FSCM – fire support coordination measure HPT – high-payoff target PACE – primary, alternate, contingency, emergency POA – priority of air support POF – priority of fire (P) – primary TGT – target				

***NOTE*:** The Fire support execution matrix is a useful tool to verify that the preplanned ASR numbers, sent per the battle rhythm, are sufficient to provide air-to-surface fires at the designated place and time. The fire support execution matrix can assist with re-validation and accuracy of all preplanned ASRs that are resourced on the published ATO; and identify those ASRs that were not resourced on the ATO with air missions and require alternate firing solutions.

SAMPLE

Initial Fire Support Coordination Measures

2-87. The division commander typically establishes all FSCMs, excluding boundaries, on the basis of recommendations by the FSCOORD. The FSCOORD recommendations are based on the division commander's guidance, location of friendly forces, the scheme of maneuver, and anticipated enemy actions. For considerations on the development of FSCMs see FM 3-09.

Plan for Joint Air Support

2-88. Joint air support planning is crucial in developing the overall division fires plan. The division commander must identify and articulate the desired effects from CAS and AI targets with specifics concerning time, place, desired effects and rational. In most cases, the division will not have sufficient details to approve or submit ASRs for CAS as the primary engagement asset for targets (60-hrs prior to ATO execution). A technique for the division is to send preplanned ASRs for on-call ground alert GCAS or airborne alert XCAS capable air assets. These dedicated alert aircraft missions can be changed from GCAS to XCAS to CAS as the situation develops during ATO execution. The division is normally the first level of command whose battle rhythm is able to submit preplanned ASRs on time to their higher headquarters or the BCD at the JAOC. Therefore, the division fires cell should consider air support requirements for subordinate unit operations two levels down (BCT and battalion) and send preplanned ASRs for dedicated air missions on the ATO to support division operations. The division's ASOC can manage, redirect, and retarget those sorties on the ATO that are dedicated to division operations. For detail on joint air support, and the JAGIC see ATP 3-09.32, ATP 3-91.1, ATP 3-52.2, FM 3-94, FM 3-09, JP 3-60, JP 3-09, and JP 3-09.3.

Plan for Airspace Control

2-89. Division airspace control involves detailed coordination and integration to enable effective use of CAS, AI, indirect fire, ADA, Army aviation (including unmanned aircraft systems), and maneuver operations. The division staff should establish an airspace control working group that, at a minimum, includes representatives from the fires cell and targeting officers, ALO, TACP, AMD element, UAS planner, and the airspace element to develop the plan to integrate the division's airspace users in the division assigned airspace. The aviation airspace control officer should lead the airspace control working group. ACMs are developed at the subordinate brigades and are sent digitally to the division airspace element in the form of a unit airspace plan via the Tactical Airspace Integration System (referred to as TAIS). The division airspace element reviews these subordinate unit airspace plans and merges them to form the division's airspace plan. Once all the airspace has been worked at division level, the airspace element will send the unit airspace plan up to its higher headquarters airspace element if the division is acting as the tactical warfighting headquarters in accordance with FM 3-94. The division's airspace requirements compete for the use of joint airspace with all the other joint forces. Those ACMs approved are published on the ACO. Airspace control for the division is summarized in FM 3-52 and ATP 3-52.1.

SUMMARY

2-90. At the end of COA development, the fire support planning team has synchronized the scheme of fires and associated fire support tasks for each COA. They know which units will perform each task, where they need to be at the execution time, and when the task is to be executed. MOPs and MOEs and the source of the information required to assess each task are identified. The fire support planning team has organized this information for COA analysis using the scheme of fires and sketches, HPTL, AGM, target synchronization matrix, and other products. COA analysis follows COA development see Table 2-7 on page 2-23.

Table 2-7. Division fires cell during analysis of courses of action

Military Decision Making Process STEP 4: COURSE OF ACTION ANALYSIS (WAR GAME)		
Division Staff	**Key FSCOORD and Fires Cell Actions**	**Fires Cell Output**
• Gather the tools. • List all friendly forces. • List assumptions. • List known critical events and decision points. • Select the war-gaming method. • Select a technique to record and display results. • War-game the operation and assess the results. • Conduct a war-game briefing (optional). • Develop hazard controls and make risk decisions.	• Gather fires running estimate, fires portions of event templates, target value analysis results. • Confirm fire assets for all courses of action. • Validate fires relevant facts/ assumptions. • Determine FA contribution to fires tasks. • Develop evaluation criteria to measure effectiveness of fire support contributions for each COA. • Develop fire support execution matrix for each COA. • Provide likely adversary fires actions to G-2; determine where to find and attack enemy fire support capabilities. • Insure fires is integrated into commander's emerging concept of operations throughout the wargame. • Formulate list of advantages and disadvantages of each COA from fires perspective. • Identify synchronization requirements including modifications to fire support coordination and ACMs. • Identify decision points, named areas of interest, decisive terrain and additional critical events and how these may influence positioning/posturing of fires assets. • Identify high-value targets, HPTs, fires portion of event templates, and develop TSS and AGM. • Help determine commander's attack guidance. • Actively participate in all phases of war-gaming.	• Refined scheme of fires. • Refined draft Annex D (FIRES) and appendices. • Refined draft fire support execution matrix. • Refined draft target list worksheet and target overlay. • Refined draft target synchronization matrix or modified target synchronization matrix (high- payoff target list, TSS, AGM). • Refined draft FSCMs. • Refined draft named areas of interest and target areas of interest. • Refined fires unit position areas and initial airspace requirements.

ACMs – airspace coordinating measures AGM – attack guidance matrix COA – course of action

FSCMs – fire support coordination measures FSCOORD – fire support coordinator G-2 – assistant chief of staff, intelligence

HPTs – high-payoff targets TSS – target selection standards

ANALYSIS OF COURSES OF ACTION (WAR GAME)

2-91. COA analysis or war gaming identifies which COA accomplishes the mission with minimum risk of casualties while positioning the division to retain the initiative. The war game provides detail and refinement, validates capabilities, and synchronizes the fires plan. During war gaming and COA comparison the FSCOORD must understand and be able to brief the division commander on the strengths and weaknesses of each COA from a fires perspective.

2-92. War gaming helps the fire support planning team synchronizes the fires warfighting function with other warfighting functions. It helps the division staff integrate fires into the overall operation. During the war game, the fire support planning team addresses how each element or related activity contributes to the scheme of fires for that COA and its associated time lines, critical events, and decision points. The scheme of fires associated with each COA is revised as needed during war gaming.

TEST THE FEASIBILITY OF THE PLAN

2-93. As courses of action are developed, the fire support planning team must apply doctrinal or validated planning factors (such as munitions effects tables) and determine whether time, space and ammunition required for execution will enable the commander's desired effects from fires to be created. Validated planning factors are preferred, because they reflect the current training status of the units involved.

2-94. The results of COA analysis are a refined scheme of fires and associated products for each COA. During war gaming, the fire support planning team refines fires requirements, related essential elements of friendly information, and HPTs for each COA and synchronize these items with their results or effects on the G-3 synchronization matrix. This matrix provides the basis for fires input to the OPORD paragraph 3e or Annex D (FIRES) Paragraph 3a (Scheme of Fires) of the division OPLAN or OPORD.

2-95. At this point in the process, the fire support planning team begins to refine the fires paragraphs to the OPLAN or OPORD by further developing specific tasks for fires to create the desired lethal and nonlethal effects.

2-96. The fire support planning team may also elect to produce the Annex D, (FIRES). This annex may be necessary to expand on the information contained in subparagraph 3e (Scheme of Fires) of the OPORD. If the information in subparagraph 3e (Scheme of Fires) is deemed adequate, then a separate fires annex is not published.

GATHER THE TOOLS

2-97. The tools needed for an effective war game are the draft fires outputs from COA development. The fire support planning team must finish COA development as completely as possible before starting COA analysis. The war-game step of the MDMP provides the final detail and refinement, validates capabilities, and helps synchronize the fires warfighting function with the other warfighting functions. The purpose of the war game is to analyze a COA, not to create one.

2-98. The war gaming process provides an opportunity for the fire support planning team to finalize the scheme of fires:

- Finalize targeting decisions.
- Visualize and synchronize fires with maneuver against enemy courses of action.
- Test the scheme of fires.
- Modify the scheme of fires as necessary.

2-99. The war game brings all the members of the targeting working group together to finalize the decisions of the decide function of targeting. For each COA the fire support planning team collects and makes available the fires running estimate, fires portion of event templates and target value analysis results. For CAS (see JP 3-09.3), important tools that must be gathered include:

- ATO and special instructions information.
- Decisionmaking matrices.
- Briefing cards and CAS briefs (for example, 9-line briefings).
- Standard conventional load listings.
- Aircraft and weapons capabilities information.

LIST ALL FRIENDLY FORCES

2-100. The fire support planning team considers all fires assets that can be committed to the operation (the friendly list will likely be the same for all courses of action) paying special attention to command and support relationships and constraints.

LIST ASSUMPTIONS

2-101. The fire support planning team validates fires relevant facts and assumptions.

LIST CRITICAL EVENTS AND DECISION POINTS

2-102. The fire support planning team determine the fires contribution to division essential tasks identified during mission analysis and COA development (for example fire support-related named areas of interest, target areas of interest, and fire support tasks). For CAS planners, these include:

- Line of departure or defend no later than times.
- CAS triggers (named areas of interest and target areas of interest).
- ACMs and FSCMs.
- SEAD and marking requirements.

SELECT THE WAR GAME METHOD

2-103. The division G-3 and tactical SOP determine the war game method (see FM 6-0).

SELECT A METHOD TO RECORD AND DISPLAY RESULTS

2-104. The fire support planning team uses the fire support execution matrix for each COA as a script for the war game. The fires unit(s) and related activities are synchronized with each other and with the division concepts of operations for the different courses of action. To the extent possible, the FSCOORD, fires cell planners and targeting officers also include planned fires counteraction to anticipated enemy reactions. For example, these could include:

- Events logs.
- Timetables.
- Reaction times.

WAR GAME THE BATTLE AND ASSESS THE RESULTS

2-105. During preparation for war gaming, the fire support planning team provides the G-2 likely enemy fires actions and reactions to friendly fires. The planners continue to provide input to the G-2 for HPT development and selection.

2-106. The division staff analyzes the COA by war gaming, conducting a risk assessment, and comparing the war gaming results.

2-107. The fire support planning team participates in the action-reaction-counteraction process. For example, the electronic attack action may be jamming; the enemy reaction may be changing frequencies; the electronic attack counteraction may be jamming the new frequency. The fire support planning team uses the fire support execution matrix to insert fires tasks into the war game at the time planned. A complete fire support execution matrix allows them to state the organization performing the task and its location. The fire support planning team remains flexible throughout the process and are prepared to modify inputs to the war game as it develops. The fire support planning team also prepares to modify the scheme of fires and associated fire support task(s) to counter possible enemy actions discovered during the war game. The planners note any branches and sequels identified during the war game and develop associated schemes of fires as time permits.

2-108. The fire support planning team and the other division staff sections must work together to analyze the COA. During the consideration of factors affecting each COA, these personnel war game each course against probable enemy actions to see how the battle will progress.

2-109. The fire support planning team visualizes the battle in depth to determine how fires can support the division concept of operations, provide advice to the commander on the fires assets available and recommends the most effective use of these assets. The fire support planning team and the division staff war game each action up to and including mission accomplishment to determine the risks involved and the probable success of each COA. Their previous assessment of the courses of action may cause them to recommend against the COA that proves to be impractical. The fires support planning team:

- Engages emerging targets with the most appropriate response.
- Determines the tasks and requirements for all fires resources.

- Considers proper distribution of assets for close support of maneuver elements, for counterfire, for interdiction, and for SEAD.
- Visualizes fires unit movements required to follow the battle flow.
- Considers fires sustainment needs and their impacts on the battle.

2-110. The division staff, FSCOORD, and targeting working group continuously evaluate the integration of fires into the division commander's emerging concept of operations throughout war gaming. They begin to formulate a list of advantages and disadvantages of each COA from a fires point of view. This interaction between the division commander and FSCOORD results in influencing the commander's options based upon the availability and allocation of fires assets. The result of war gaming is a COA that closely integrates fires with maneuver and other warfighting functions. War gaming a COA should result in:

- Refinements or modifications to the COA.
- Refinement of fires, information collection capabilities, and EW tasks that have begun during COA development.
- Identification of subordinate unit tasks and task organization requirements, including a fires organization for combat to support each COA.
- Analysis of fires events two echelons down.
- Identification of synchronization requirements; these include the establishment or modification of FSCMs or ACMs.
- An estimate of battle duration for each critical event as well as for the entire battle.
- Projection of the percentage of total enemy forces defeated in each critical event and overall.
- Identification of the required use of other combat capabilities.
- Identification of fires risks for each COA.
- Identification of decision points, named areas of interest, target areas of interest, decisive terrain, and additional critical events.
- Identification of airspace conflicts between fires and other planned airspace use.

NOTE: The fire support planning team must consider how these courses of action and airspace conflicts may influence fires asset positioning and posturing and the use of attack helicopters and CAS. The CAS specific considerations include whether CAS created the division commander’s desired effects and was effectively integrated with the ground scheme of maneuver. Due to the possible use of different radios between supported and supporting units, communications must be determined to be both reliable and effective.

- Identification of chemical, biological, radiological, and nuclear events.

NOTE: The FSCOORD must be alert to likely times and areas where enemy weapons of mass destruction may be employed.

Identification of additional requirements for sustainment.

***NOTE*:** The FSCOORD determines the availability and prioritization of fire support assets based upon the projected fire support plan and anticipated munitions required consistent with the sustainment situation. The fire support planning team records the anticipated results to identify COA strengths and weaknesses from a fire support perspective.

- Identification of requirements for deception and surprise - fire support assets may be used to mislead the enemy through the use of false preparation fires and screening obscuration (smoke screens).
- Identification of mission command requirements.
- Identification of procedural and positive control requirements.
- Identification of branches (alternatives) and sequels (subsequent actions).

NOTE: As the fire support planning team identifies possible enemy reactions for each of their own actions they can identify branches that they can later develop and war-game for inclusion in the OPLAN or OPORD.

- Identification of commander's critical information requirements.
- Identification of strengths and weaknesses.
- Refinement and synchronization of HPTs initiated during COA development including determining:
  - Which TA and information collection assets should be used to detect the HPTs?
  - When to engage each HPT.
  - Which system or attack means to use against each HPT.
  - The desired effects from each attack.
  - Requirements for assessment.

NOTE: The fire support planning team submits assessment information requirements to the G-2 for inclusion in the information collection plan.

- Which HPTs require special instruction or require coordination.

COURSE OF ACTION COMPARISON

2-111. During COA comparison (see table 2-8), the division staff compares feasible courses of action to identify the one with the highest probability of success against the most likely enemy COA and the most dangerous enemy COA. The fire support planning team evaluates the advantages and disadvantages of each COA and presents their findings. The staff outlines each COA in terms of the evaluation criteria established before war gaming and identifies the advantages and disadvantages of each with respect to the others. The fire support planning team records this analysis in paragraph three of the fires running estimate.

CONDUCT A COURSE OF ACTION ADVANTAGE AND DISADVANTAGE ANALYSIS

2-112. After the analysis, the G-3, G-2, and the fire support planning team compares strengths and weaknesses, highlights advantages and disadvantages from the perspective of the fires warfighting function and other warfighting functions. The staff assess risks and determine which COA promises to be most successful.

Table 2-8. Division fires cell during course of action comparison

Military Decisionmaking Process STEP 5: COURSE OF ACTION COMPARISON		
Division Staff	**Key FSCOORD and Fires Cell Actions**	**Fires Cell Output**
• Conduct advantages and disadvantages analysis. • Compare courses of action. • Conduct a COA decision briefing.	• Participate with division staff in comparing strengths, weaknesses, advantages, and disadvantages of each COA, emphasizing fire support aspects. •Update fire support and information-related capabilities estimates. • Brief results of fire support analysis including best COA from fire support perspective and adequacy of scheme of fires and supporting assets (for example sustainment and protection). • Develop draft fires paragraphs and annexes to include fire support tasks, fire support execution matrix, target list and overlay, target synchronization matrix or modified (HPTL, TSSS, AGM). •Integrate information collection capabilities and cyberspace electromagnetic input into targeting products. • Provide inputs to the information collection plan. •Update fire support running estimate. • FSCOORD briefs fire support plan for each COA.	• Final drafts of the: ◆Scheme of fires. ◆Annex D (FIRES) and appendices. ◆Fire support execution matrix. ◆Target list worksheet. ◆Target overlay. ◆Observer plan. ◆Target synchronization matrix or modified (HPTL, TSS and AGM). ◆FSCMs. ◆Named areas of interest and target areas of interest. ◆Airspace requirements and associated recommended ACMs.
ACMs- airspace coordinating measures AGM – attack guidance matrix COA – course of action FSCMs – fire support coordination measures FSCOORD – fire support coordinator HPTL– high-payoff target list TSS – target selection standards		

COMPARE COURSES OF ACTION

2-113. The comparison of the courses of action is critical. The staff may use any technique that facilitates reaching the best recommendation and the division commander making the best decision. The most common technique is the decision matrix (see FM 6-0 for a detailed discussion of the decision matrix). One fire support criterion for comparison is the COA's ability to achieve the commander's attack guidance. The result of this consideration is a recommendation to the commander.

DEVELOP A RECOMMENDED COURSE OF ACTION

2-114. The division staff develops a recommended COA. The fire support planning team further develops and refines draft fire support products for the recommended COA including:

- HPTL.
- TSS.
- AGM.
- Fire support tasks including appropriate aspects of information collection capabilities and cyberspace electromagnetic activities.
- MOP and MOE for assessment.
- Updated fires running estimate.
- Inputs to the information collection plan.
- Scheme of fires (subparagraph 3e) for the OPLAN or OPORD.
- Annex D, (FIRES), if published, to include the fire support and execution matrices, target list and overlay (as necessary), and target synchronization matrix (or modified target synchronization matrix).

NOTE: The targeting working group may prepare a target synchronization matrix for each COA, or may use the HPTL, TSS, and AGM for the war game and prepare a combined target synchronization matrix for only the approved COA.

COURSE OF ACTION APPROVAL

2-115. The inputs to COA approval and the following step, orders production, are the outputs of COA analysis and comparison. After completing the COA comparison, the division staff identifies its preferred COA (see table 2-9) and recommends it to the division commander. The FSCOORD translates the recommended COA into a fire support recommendation for approval by the division commander. The division commander approves a COA (as presented, or with any directed modifications). It is a summary of the division concept of operations, the scheme of fires, and associated fire support tasks including:

- Priority of fires.
- Allocation of fire support resources.
- Fire support organization for combat.
- Command and support relationships.
- Final HPTL, TSS, AGM, or if used the target synchronization matrix.

Table 2-9. Division fires cell during course of action approval.

MDMP STEP 6: COURSE OF ACTION APPROVAL		
Division Staff	***Key FSCOORD and Fires Cell Actions***	***Fires Cell Output***
• Recommends a COA, usually in a decision briefing. • The division commander decides which COA to approve. • The division commander issues final planning guidance. • Issues warning order to subordinate headquarters.	• Assess implications and take actions as necessary to finalize selected scheme of fires including attendant HPTL, TSS, and AGM. • Integrate information collection capabilities and cyberspace electromagnetic activities input into these targeting products. • Participates in COA approval briefing. • Include scheme of fires and fire support tasks. • The FSCOORD assists the division commander in the development of the refined commander's intent and planning guidance. • Prepare fire support portions of warning order including changes to commander's critical information requirements, risk guidance, time sensitive reconnaissance tasks and fire support tasks requiring early initiation. • Prepare tentative fire support portions of division OPORD. • Participate in required back-briefs, and rehearsals.	• For the approved COA: ◆Refined scheme of fires. ◆Refined Annex D (FIRES) and appendices. ◆Fire support execution matrix. ◆Target list worksheet. ◆Target overlay. ◆Observer plan. ◆Target synchronization matrix or modified (HPTL, TSS, and AGM). ◆FSCMs. ◆Named areas of interest and target areas of interest. ◆Airspace requirements and associated recommended ACMs.
ACMs – airspace coordinating measures AGM – attack guidance matrix COA – course of action FSCMs – fire support coordination measures FSCOORD – fire support coordinator HPTL – high-payoff target list MDMP – military decisionmaking process OPORD – operation order TSS – target selection standards		

2-116. During the staff's COA approval briefing to the division commander, the FSCOORD briefs the scheme of fires as a part of each COA brief. The level of detail for this brief, including the portion briefed by the FSCOORD varies depending on the division commander's level of participation in the war game and any specific briefing requirements that he has issued. Normally, the FSCOORD covers the key details of the OPORD scheme of fires subparagraph 3e, emphasizing each fire support task and any critical fire support restrictions, limitations, or considerations pertinent to that COA. The fires cell planners and targeting officers

generally provide a sketch, map overlay, or terrain model to help convey details of the fire support plan more clearly. If the FSCOORD perceives the need, he may request for additions or changes to the division commander's intent or guidance for fire support.

2-117. Once a COA is approved, the division commander may refine the commander's intent and issue additional planning guidance. The FSCOORD and fires cell planners and targeting officer prepare the fires portions of the division order and participate in the required back-briefs and rehearsals. The warning order issued after COA approval contains information that executing units require to complete planning and preparation. Possible fires input to this warning order includes:

- Fires contributions to the commander's intent or concept of operations.
- Changes to the commander's critical information requirements.
- Additional or modified risk guidance.
- Time-sensitive reconnaissance tasks.
- Fires tasks requiring early initiation.

ORDERS PRODUCTION, DISSEMINATION, AND TRANSITION

2-118. Based on the division commander's decision and final guidance, the staff refines the approved COA and completes and issues the OPLAN or OPORD (see table 2-10). When the division commander approves a COA, the targeting products for that COA become the basis for targeting for the operation. The targeting working group and targeting board meet to finalize the high- payoff target list, TSS, AGM, MOP, MOE, targeting synchronization matrix, fire support tasks, appropriate aspects of information related capabilities and cyberspace electromagnetic activities, and input to the information collection plan. The fires cell planners and targeting officers also perform any additional coordination required. After accomplishing these tasks, targeting working group and targeting board members ensure that targeting factors that fall within their functional areas are placed in the appropriate part of the OPLAN or OPORD.

Table 2-10. Division fires cell during order production

MDMP STEP 7: ORDERS PRODUCTION, DISSEMINATION, AND TRANSITION		
Division Staff	***Key FSCOORD and Fires Cell Actions***	***Fires Cell Output***
• Refines approved course action into clear concise concept of operations and required supporting information. • Develops OPORD • Implements risk controls by coordinating and integrating them into appropriate paragraphs and graphics of the order. • The division commander reviews and approves order. • Division commander briefs subordinate commanders and staffs and conducts confirmation briefings. • Implement hazard controls.	• Expand scheme of fires into full fire support plan, reflecting current events, guidance and capabilities. • Confirm specific: ◆Command and support relationships. ◆FA tactical mission assignments. ◆HPTL, TSS, AGM, and execution responsibilities. ◆Integrate information related capabilities and cyberspace electromagnetic activities input into the targeting products. ◆Information collection requirements. ◆Assessment requirements. • Assist subordinate staff/units with planning and coordination. • Present fire support portions of OPLAN or OPORD briefing, including fire support tasks.	• Warning order to subordinate and supporting fire support assets. • Scheme of fires subparagraph 3e to division OPORD. • Annex D (FIRES) to division OPORD. ▪ Fire support execution matrix. ▪ Fire support tasks. ▪ Fire support back brief. ▪ Manage refinement. ▪ Conduct fire support rehearsal.
AGM – attack guidance matrix FA– field artillery FSCOORD – fire support coordinator HPTL – high-payoff target list MDMP – military decisionmaking process OPLAN – operation plan OPORD – operation order TSS – target selection standards		

INPUT TO THE OPERATION PLAN OR OPERATION ORDER

2-119. The fire support planning team writes paragraphs of the base OPLAN or OPORD that discuss fire support. They ensure the fire support input is placed in the appropriate paragraphs of the base order. If the OPLAN or OPORD requires a fire support annex, the fire support planners prepare it.

2-120. Subparagraph 3e of the OPLAN or OPORD states the scheme of fires and associated fire support tasks, including appropriate aspects of information operations and cyberspace electromagnetic activities. If Annex D (FIRES) is not used, this subparagraph may contain a subparagraph for each fire support component or related activity and follows the same format as Paragraph 3 of Annex D (FIRES). Paragraph 3e (Scheme of Fires) establishes priority of support and refers to appropriate annexes and fires appendices as required. The commander's distribution decision should be stated to ensure priority of air support is clearly understood by the ASOC, JAGIC, COIC and fires cell. This paragraph gives the staff and subordinate commands the information needed to synchronize fires with other warfighting functions.

2-121. Placement of fire support tasks in the OPLAN or OPORD varies according to the importance of the task and the complexity of the operation. Fire support tasks may appear in the body of the order— particularly if they are relatively simple or short, as may be the case of a fragmentary or warning order. For complex plans and orders, only the scheme of fires appears in the body. Fire support tasks may be placed under tasks to subordinate units in the base order or in the fires annex.

2-122. The fires annex usually includes appendices. The complete OPORD may include, but is not limited to, appendices and tabs for:

- Fire support overlay.
- Fire support execution matrix.
- Targeting
  - HPTL.
  - TSS.
  - Target synchronization matrix.
  - BDA G-2.
- FA support.
- Air support.
- Naval surface fire support.
- AMD officer.
  - Enemy air avenues of approach.
  - Enemy air order of battle.
  - Enemy theater ballistic missile overlay.
  - AMD protection overlay.

2-123. FSCMs (described in FM 3-09) are routinely referenced in the OPLAN or OPORD coordinating instructions. Other fire support related information appears in the coordinating instructions when it:

- Affects two or more units.
- Depends on friendly actions.
- Involves synchronization with other warfighting functions.

2-124. The fires cell and supporting FA battalion operations officer conducts a parallel planning process— identifying fire support tasks and preparing the FA battalion OPORD or FA support plan. Identification and coordination of fire support, FA, and combined arms rehearsal requirements should also begin.

FIRE SUPPORT PLAN

2-125. The maneuver commander develops a fully integrated OPLAN or OPORD that integrates the fire support plan. Planning fires in support of maneuver is a complex task and requires continued collaboration between the maneuver commander and the FSCOORD to ensure the commander’s intent is accomplished.

2-126. The fire support plan is an integral part of the OPLAN or OPORD. The fire support plan is normally comprised of the Fires paragraph in the OPLAN or OPORD and Annex D (FIRES) (if used). The development of the fire support plan is the responsibility of the fire support planning team. Preparation for and execution of the plan also includes the responsibility for both technical and tactical rehearsals to ensure proper execution. Appropriate liaison representatives prepare their respective paragraphs. The fire support planners must also ensure that the fire support plan gives enough commander's guidance to ensure that sufficient information is available for FA automated data processing systems. The essential elements of a fire support plan include but are not limited to:

- Clear and concise articulation of fire support tasks by identifying the task, purpose, and effect of each task.
- Allocation of all fire support assets.
- Projected changes to the allocation of fire support assets based on tactical contingencies.
- Coordination and synchronization instructions for the timely detection and attack of HPTs.
- Requirements for positioning of assets, the makeup of basic loads, and the controlled supply rate.
- Restrictions on ammunition expenditures, types of fires, areas of employment, and creation of obstacles.
- Establishment and changes to any FSCMs.
- Scheme of fires to support the operation.

2-127. Fire support is a continuous process and for the fire support plan to be successful, it must be flexible and simple. The plan will anticipate the changes in the dynamics of the battlefield and provide the flexibility to adapt to these changes. See FM 6-0 for an example of OPLAN or OPORD formats. Appendix A provides an annotated example of a FA support plan.

2-128. The OPLAN or OPORD scheme of fires paragraph 3(e) contains the information necessary to understand how fire support will be used to support an operation. The scheme of fires paragraph should include a subparagraph for each type of fire support involved. Appropriate fire support liaison representatives prepare their respective paragraphs. The fire support planners may combine these subparagraphs into an integrated fire support plan. If the integrated fire support plan includes a target list, it reflects only those targets the commander thinks are critical to the operations. The fire support planning team must also ensure that the integrated fire support plan gives enough of the division commander's guidance to ensure sufficient information is available for FA automated data processing systems.

FIRES ANNEX AND APPENDICES TO THE OPERATION ORDER

2-129. If the operation requires lengthy or detailed plans a separate fires annex to the OPLAN or OPORD may be prepared. Such an annex amplifies the instructions in the OPORD. Specific plans for each type of fire support (typically, air support, FA support, and naval surface fire support) are prepared, as needed, to amplify the fire support plan. The fire support plan can include planning products such as an observation matrix, fire support execution matrix, radar deployment order or execution matrix, or TA appendix.

SUMMARY

2-130. When the time comes to write input to the body of the order and the supporting Annex D (FIRES), (if necessary) nearly all the detailed coordination, synchronization, and deconfliction work is completed. The fire support planners coordinate the fire support plan or annex with organizations involved with executing tasks and with those that fire support will affect. The fire support planning team also synchronizes the fire support plan or annex with the OPLANs or OPORDs of higher, lower, adjacent and supporting units. During planning, they have made some preparations for the operation based on warning orders and the results of parallel and collaborative planning.

TYPES OF REHEARSALS

2-131. The DIVARTY and division fire support personnel may be involved in several types of rehearsals. The most common types are combined arms rehearsals, fire support rehearsals, and FA tactical and technical rehearsals. Multiple rehearsals ensure that maximum integration and synchronization in supporting the

scheme of maneuver with fires is achieved. However, when time is limited, the number and scope of rehearsals are reduced. In these cases, rehearsals may focus on fire support tasks or particular aspects of the maneuver plan and the associated fire support plan. Combined fire support and FA rehearsals may be conducted. The fire support rehearsal, in coordination with the FA technical rehearsal, should be conducted prior to the combined arms rehearsal and if possible include members of the operations and intelligence staff and other members of the targeting working group.

2-132. Whenever possible, rehearsals are based on a completed OPORD. However, a unit may rehearse a contingency plan to prepare for an anticipated deployment. The rehearsal is a coordination event, not an analysis. It does not replace war-gaming. Commanders war-game during the MDMP to analyze different courses of action to determine the optimal one. Rehearsals practice that selected COA. Commanders avoid making major changes to OPORDs during rehearsals. They make only those changes essential to mission success and risk mitigation. For more information on rehearsals, see FM 6-0.

COMBINED ARMS REHEARSALS

2-133. The fire support plan may be rehearsed as part of the division's combined arms rehearsal. Key fire support players include the FSCOORD, division COF, DIVARTY and division fires cells including the JAGIC, weather officer, subordinate and supporting unit fires cell representatives, division G-2, assistant chief of staff, logistics (referred to as the G-4), assistant chief of staff, signal (referred to as the G-6), chemical, biological, radiological, nuclear (CBRN) officer, and the engineer coordinator. Assigned and attached combined arms units that comprise or support the division will participate when possible. Normally, the division Chief of Staff (Executive Officer) directs the rehearsal using a synchronization matrix or execution checklist; the division COF should use the fire support execution matrix. The rehearsal is normally executed by reciting or performing:

- Actions to occur.
- Possible friendly initiatives.
- Possible reactions to enemy initiatives.
- Control measures.
- Significant events relative to time or phases of the operation.
- At a minimum for each phase or time period of the operation, the division COF should verify:
  - Grid locations for HPTs.
  - Trigger points for each target and the target engagement criteria.
  - A primary and an alternate observer for each target.
  - Primary and backup communications links for each observer.
  - Each target has a task (including effect to be achieved) and a purpose, and that targeting priorities are clearly outlined.
  - The method of engagement (at my command, time on target, or when ready).
  - Attack guidance, such as unit(s) to fire, shell and fuze combination, and number of volleys, specified for each target.
  - The movement plan specifies when and where units will move.

FIRE SUPPORT REHEARSALS

2-134. The fire support rehearsal should last no more than 90 minutes and should ensure the synchronization of the fire support effort with the maneuver plan. Fire support rehearsals focus on the execution of fire support tasks, the fire support execution matrix, the effectiveness of FSCMs, and the timing and synchronization of all fire support efforts with each other and with the maneuver operation. Fire support rehearsals serve to refine the fire support plan, ensure understanding by all fire support personnel, and prove the feasibility of executing fire support.

2-135. A fire support rehearsal may include all key maneuver and fire support personnel involved in planning and executing the fire support plan, to include the supporting FA battalion command post. The division commander, FSCOORD, division COF, COS, G-3, and subordinate brigade representatives attend

the fire support rehearsal. Division staff officers attending include the G-2, assistant chief of staff, logistics (referred to as the G-4), assistant chief of staff, signal (referred to as the G-6), targeting officer, field artillery intelligence officer, and liaison officers. For more information on rehearsals see FM 6-0 and ATP 3-09.42.

CLEARANCE OF FIRES

2-136. *Clearance of fires* is the process by which the supported commander ensures that fires or their effects will have no unintended consequences on friendly units or the scheme of maneuver (FM 3-09). The supported ground commander is responsible for the clearance of fires, including the integration of fires with other airspace users.

2-137. The commander establishes, or requests higher headquarters establishment of control measures (such as graphic control measures, direct fire control measures, ACMs, and FSCMs. These serve as a means of separating units, synchronizing fires with maneuver, facilitating clearance of fires, and aid in the prevention of fratricide. The commander may not employ indirect fires across boundaries without receiving clearance from the unit into whose AO the fires will impact. The commander may employ direct fires across boundaries without clearance at specific point targets that are clearly and positively identified as enemy (FM 3-90-1). Commanders may consider early coordination to also grant clearance for indirect fires against targets. Airspace clearance coordination remains necessary in any situation. Clearance of fires needs to include procedures for the clearance of airspace with the airspace element and the ASOC and the JAGIC.

2-138. Positive clearance of fires is normally facilitated through detailed planning, rehearsals, and careful placement of FSCMs. However, the clearance of targets of opportunity often presents challenges. Fires on targets of opportunity must be delivered on short notice without undue delay and without jeopardizing friendly force security. For positive clearance of fires, the following should be obtained:

- Best available method of target location.
- Positive identification of targets.
- Eyes on target, if possible.
- Clearances from appropriate external elements if target is outside unit boundaries.

2-139. Clearance of fires should usually be centralized at the fires cell, especially for the close battle. The fires cell duties include coordinating with the air defense air management/brigade aviation element and ALO regarding airspace clearance, artillery and mortar firing unit locations as well as changes to FSCMs, ACMs, and aviation support. The tactical CP is the element that has the most current information on the close fight and can clear fires quicker and more efficiently than any other fires cell. The tactical CP may also control some of the deep attack operations. However, the main CP may often have a more accurate status on the deep battle, including the location of elements such as SOF and air assets.

2-140. The tactical SOP should clearly delineate clearance of fires responsibilities between the fires cells at the main and tactical CPs. The TSOPs should also outline the procedures and responsibilities within each fires cell. The delineation of clearance of fires responsibilities must be reinforced with constant coordination between fires cells.

SECTION II – FIRE SUPPORT PREPARATION

2-141. When the OPLAN or OPORD is issued, the division staff, fire support planners focus their efforts on preparing for the operation. Their actions should include:

- Present fire support portions of the OPLAN or OPORD briefing. The fire support orders brief will normally include the scheme of fires; fire support tasks, HPTs, HPTL; availability of fire support sustainment assets, status, allocation and priority; clearance of fires procedures; TSS, AGM; FSCMs; the cutoff time for target refinement; the rehearsal instructions, and the communications and retransmission requirements.
- Distribute the OPLAN or OPORD.
- Assist subordinate units and staff with planning and coordination.
- Supervise preparations to include implementation of risk management (see ATP 5-19) controls.

- Implement fire support plans or adjusting for an evolving situation through the G-3's fragmentary orders.
- Validate and refine targeting products on the basis of more accurate or additional information (HPTL, TSS, AGM) and passing the latest information between tactical and main CPs.
- Respond to information requests.
- Continue to develop targets for division, corps or other higher headquarters, supporting FAB units, and any allocated DIVARTY FA battalions; ensuring information is passed to firing units.
- Participate in combined arms, fire support and information collection rehearsals.

Verify:

- Specific command and support relationships.
- The information collection plan.
- The fire support plan, and the movement, positioning, and protection of fire support assets.
- Synchronization and integration of fire support with other warfighting functions.
- Fire support tasks (including appropriate aspects of information operations and cyberspace electromagnetic activities) and friendly and enemy locations.
- FSCMs, rules of engagement, clearance of fires, and airspace coordinating procedures.
- HPTs, HPTL, TSS, AGM, and execution responsibilities.
- The TA plan requirements.
- Fragmentary order changes have been passed to higher, lower, and adjacent units.

2-142. Fires in support of offensive, defensive, and stability tasks apply from tactical to strategic levels, and are employed in decisive, shaping, and sustaining operations. In Joint and Army doctrine, the effects of fires on a target may be lethal or nonlethal. Fires should be planned whenever possible.

FIRES IN SUPPORT OF OFFENSIVE TASKS

2-143. An *offensive task* is a task conducted to defeat and destroy enemy forces and seize terrain, resources, and population centers (ADRP 3-0). The preferred method of conducting offensive operations is to find and destroy the enemy at a distance in order to set the conditions for decisive maneuver. The commander must leverage every available technological advantage to gain intelligence and to create lethal and nonlethal effects to enable decisive maneuver.

2-144. Supporting the offense involves engaging targets throughout the AO with massed fires or precision-guided munitions, mortars, rotary and fixed-wing air support, electronic attack, and other joint fires assets.

2-145. Offensive operations are conducted to gain and maintain the initiative. Fires are delivered to support the critical characteristics of offensive tasks: surprise, concentration, tempo, and audacity enable the supported force in seizing, retaining, and exploiting the initiative. Achieving surprise requires the division to develop detailed and timely intelligence about the enemy, weather, terrain, and civil considerations. Fire support planners concentrate fire support assets by assigning priorities, focusing on HPTs, and massing fires. The inherent flexibility of the fire support system, allows the commander to dictate the tempo of operations. Fire support planners can apply the concept of audacity by aggressively applying firepower and making well-thought-out, risk-taking decisions in the use of fire support assets. For more information on fires in support of offensive tasks see FM 3-09.

GENERAL FIRE SUPPORT CONSIDERATIONS FOR OFFENSIVE OPERATIONS

2-146. Fire support must be responsive and timely in rapidly moving and often uncertain situations to help achieve and sustain the initiative. Strikes by fire support assets are one of the commander’s principle means of influencing ongoing action. Fire support provides friendly formations with a force multiplier to enhance force survivability, fix enemy forces, and secure flanks. Fire support may also be used to neutralize and fix bypassed pockets of resistance until follow-on friendly forces can consolidate gains.

2-147. Decentralized execution during the offense allows maneuvering elements direct access to sufficient firepower to support the operation. However, the FSCOORD must also retain sufficient assets to mass effects

at critical times and places to support the decisive operation. If the commander has considerable air or naval surface fire support assets, decentralized control may be established for most of the FA assets through organization for combat and assignment of support relationships. If air and naval surface fire assets are constrained, the FSCOORD should ensure that the commander retains control of enough FA assets to react to potential and unknown critical events.

2-148. Due to the size of a division AO, it is more difficult than at lower levels to shift FA assets or their fires. It may also be difficult to shift the effects of naval surface fire support throughout the AO. To quickly mass fire at critical points, the division requires an increased reliance on air assets. However, airpower requires detailed planning to ensure that it is available when needed.

2-149. The following considerations are applicable to many offensive situations:

- Deploy and conduct maneuver.
- Develop intelligence.
- Employ fires.
- Perform sustainment.
- Exercise control.
- Protect the force.

Deploy And Conduct Maneuver

2-150. Fire support planners must ensure that fire plans adequately address troop movement operations. Fire superiority is critical to the division's ability to seize the initiative and to conduct maneuver at a given place and time without interference from the enemy. The fire plan should ensure that the division achieves fire superiority early and sustains it throughout the operation.

2-151. Terrain management for controlled FA units operating in subordinate areas should normally be decentralized as much as possible. The fires cell can alert subordinate unit fires cells on broad requirements, commander priorities, and the designations of the FA units or artillery headquarters that will be contacting them, and then rely on direct coordination between the appropriate division FA unit and subordinate maneuver unit fires cell. The division main fires cell and the DIVARTY CP must work together to ensure that terrain management for FA units is coordinated effectively and in a timely manner.

2-152. The mission variables of mission, enemy, terrain and weather, troops and support available, time available, and civil considerations determine the positioning of FA assets. By positioning FA assets in particular sectors and assigning zones of fire, the commander can lend weight to the main attack, provide additional support, and facilitate future operations. In the offense, artillery is positioned well forward to exploit weapon ranges and to preclude untimely displacement when fires are needed the most.

Develop Intelligence

2-153. As fire support planners adjust the fire plan to account for the progression of the battle, including branches, sequels, and unexpected changes, they must understand the interrelationship of fires, intelligence, and TA. The reorientation of intelligence and TA assets may be linked to various control measures.

Employ Fires

2-154. The employment of fires for fire support includes the ability to detect targets and deliver fires in accordance with the commander's intent and the HPTL.

Detect Targets

2-155. Allocate aerial observation assets to lead units conducting fast-paced operations such as envelopments, turning movements, penetrations, pursuits, and movements to contact. This relies on the ability and availability of UAS and other airborne collection assets.

2-156. Establish sensor-to-shooter links to facilitate attacks when numerous HPTs are present and maximum payoff can be achieved.

2-157. Attack helicopter units performing or supporting screening missions can also locate targets and request indirect fire missions. Make maximum use of available air assets to acquire targets for counterfire.

Deliver Fires

2-158. Consider fires for each element and phase of an operation. Both the allocation of fire support assets and long range fires can be used to support each subordinate maneuver unit throughout the attack.

2-159. Consider weighting the main effort with CAS and attack helicopter support:

- A continuous flow of planned CAS sorties allows the main attack force to respond to contingencies that develop during the course of the battle as well as retain the initiative.
- Identify lower priority division and subordinate-level CAS and attack helicopter missions that may be diverted if the commander needs the fire support for a higher priority unanticipated mission.

2-160. Prepare to support a deception plan before a main attack begins by massing fires on forward enemy units not in the area of the main attack and by attacking some deep targets that support the deception effort. These fires should complement other efforts to mislead the enemy as to the location of the main attack.

Perform Sustainment

2-161. Monitor the ability of the sustainment system to keep pace with the flow of the battle and the advance of lead units. Assist in coordinating aerial resupply as necessary to maintain fire support sustainment operations.

2-162. Understand the impact of combat and maintenance attrition for fire support equipment and of personnel casualties and fatigue. Fire plans for the later phases of deep maneuver operations will generally need to be more conservative as fewer fire support assets and resources may be available. At times it may be more important to give a logistics convoy route priority over FA or maneuver units.

2-163. Work closely with artillery assets to ensure adequate engineer support is available to facilitate the movement and position occupation of FA units. Roads and bridges may become impassable for FA units due to the wear and tear of division and brigade traffic.

Exercise Control

2-164. The division reserve normally plays a key role in offensive operations. Other units may have follow-and-support or follow-and-assume missions. On-order missions and battle handover lines must be thoroughly planned to effectively shift fire support assets and fire control responsibilities.

2-165. In fast moving offensive operations the shifting to successive FSCMs must be anticipated to properly disseminate changes to all affected elements in a timely manner. Triggers and authority to change FSCMs should be clearly identified in SOP or the fire support plan.

2-166. In operations involving penetrations, envelopments, and other deep, rapidly advancing forces, the FA organization for combat may need to facilitate the creation of composite FA battalions by division commanders. This can be done by attaching FA units to divisions without restrictions on their reorganization.

Protect The Force

2-167. Use any available maneuver assets or military police to protect FA and TA assets during rapidly advancing operations. These units can travel with the FA and TA elements or sweep and clear position areas prior to occupation. Ensure adequate security is provided along the lines of communication used for resupplying the fire support system.

FIRES IN SUPPORT OF DEFENSIVE TASKS

2-168. A *defensive task* is a task conducted to defeat an enemy attack, gain time, economize forces, and develop conditions favorable for offensive or stability tasks (ADRP 3-0).

2-169. Fires support the concept of operations during the defense by providing persistent 6400 mils (360 degrees) protection, early warning, and supporting of AMD. Fire support assets attack targets throughout the AO with massed or precision fires, mortars, and synchronize rotary-wing and fixed-wing air support, electronic attack, and other joint fires. Fire support assets also protect civilian population centers and critical infrastructure, assets vital to gaining and maintaining indigenous support of United States strategic objectives. A feature of the defense is a striving to regain the initiative from the attacking enemy. The defending commander uses the characteristics of the defense—disruption, flexibility, maneuver, mass, operations in depth, preparation, and security—to help accomplish that task. Fire support plays a key role in disrupting an attacker's tempo and synchronization. Fire support planning and execution must address the need for flexibility in defensive operations by allocating and quickly shifting fires to support the defense. Fire support planning and execution supports maneuver in defensive operations by supporting the obstacle plan and by providing fires to assist friendly forces in movement and disengagement. Massing effects plays an essential role in a unit's ability to mass overwhelming combat power in critical places and times. Operations in depth allows fires to attack the enemy before entering close contact. Preparation provides the fire support planner the ability to select the defensive terrain and to prepare a defense. Fire support must complement and support all security forces and unit protection plans. For more information see FM 3-09.

General Fire Support Considerations for Defensive Operations

2-170. On the basis of the division mission, the FSCOORD recommends the organization for combat for the DIVARTY and any allocated FA battalions. The division commander provides for adequate support but retains more centralized control of resources through the assignment of general support or general support-reinforcing support relationships.

2-171. The DIVARTY is generally organized in the defense with more centralized control of FA assets. This allows the DIVARTY commander maximum flexibility in supporting all BCTs based on enemy actions and allows massed fires to deliver support to decisive operations. Specific DIVARTY considerations include:

- Task-organizing some artillery battalions as reinforcing to BCT FA battalions. A general support-reinforcing support relationship may be appropriate where a higher degree of DIVARTY centralized control is desired.
- Providing adequate support to the division covering force.
- Number of FA battalions available and location of the most vulnerable area (flank or center of the division sector).

2-172. In the retrograde, ground maneuver forces are continually in contact with the enemy and need responsive artillery fires to assist in maneuver and breaking contact with the enemy. The DIVARTY continues to centrally control fire support assets to the force as a whole. Additionally, the DIVARTY must retain the flexibility to mass fires in support of individual BCTs to facilitate disengagement and repositioning.

FIRES IN SUPPORT OF STABILITY TASKS

2-173. FA units in support of stability operations perform both offensive and defensive tasks that support the commander's objective. For more information on stability tasks see ADRP 3-07.

2-174. Fire support is used to protect the force and the indigenous population with fires. These tasks may include security force assistance and strategic engagement. Stability tasks may require fire support assets to conduct the delivery of precision fires to mitigate the effects of collateral damage in support of offensive and defensive tasks. For additional information on fire support for stability tasks see FM 3-09.

FIRES ORGANIZATION IN DEFENSE SUPPORT OF CIVIL AUTHORITIES

2-175. The fire support structure and particularly FA units rarely support DSCA. Commanders of FA units have "Immediate Response Authority" and "Emergency Authority" to act in extraordinary emergency circumstances where prior authorization by the President is impossible and duly constituted local authorities are unable to control the situation, to engage temporarily in activities that are necessary to quell large-scale civil disturbances, to prevent destruction of property, restore government functions, save lives and prevent

human suffering. FA units have the equipment and personnel that can provide effective mission command, observation posts, convoy operations; local security, sustainment operations, and liaison to assist civil authorities if requested. FA units usually contribute in nontraditional ways during operations involving defense support to civil authorities. The equipment and organizations available to the units can provide effective mission command, observation posts, convoy operations; local security, sustainment operations, and liaison to assist civil authorities. For additional information see FM 3-09.

SECTION III – FIRE SUPPORT ASSESSMENT

2-176. The FSCOORD and fires cell must continuously assess whether they are creating desired effects and provide reattack recommendations to ensure the commander's guidance is being met. Combat assessment determines the overall effectiveness of the employment of fire support during operations.

2-177. A MOE helps measure changes in conditions, both positive and negative. MOEs help to answer the question are we doing the right things? A MOP is used to assess friendly actions that are tied to task accomplishment. MOPs help to answer the question are we doing things right? MOEs and MOPs are commonly found and tracked in formal assessment plans. MOEs and MOPs are a prerequisite to the performance of combat assessment.

FIRES RUNNING ESTIMATE

2-178. The fires running estimate helps the commander build and maintain situational understanding and a realistic analysis of the effort allowing the commander to determine the effectiveness of attacks, revise support plans based on observed results, and re-prioritize the fire support requirements. Any variable that could affect the mission is a factor. Before the estimate is started, available relevant information must be collected. Once this information has been assembled and the factors that could affect the plan have been identified, they should be listed and arranged in priority. For more information on the fires running estimate see FM 3-09. The FSCOORD and fires cell produce and maintain the fires running estimate and consider:

- The higher headquarters specified and implied tasks.
- The capabilities and limitations including the status of FA weapons, FA ammunition, FA weapons locating radars, CAS, and other related fixed wing support, and any other possible asset from higher headquarters.
- FA and mortar survey support.
- Established and recommended FSCMs.
- The impact of rules of engagement.
- The impact of terrain, and weather on friendly and enemy forces (such as smoke, CAS, and AI.
- Information collection plan support and requirements.
- Initial HPTL.
- Fire support input to the IPB analysis.
- Fire support tasks and purposes.

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Chapter 3
Targeting At The Division

Targeting is a command and staff function, managed by the division fires cell, with oversight from the DIVARTY commander. The purpose of targeting is to integrate capabilities across all warfighting functions in operations. There are two categories of targeting: deliberate and dynamic. Deliberate targeting develop targets and assigns resources for operations 24 to 96 hours, or more, into the future. Dynamic targeting occurs within the current operations timeframe, normally less than 24 hours. As an integrating process, targeting integrates and synchronizes lethal and nonlethal capabilities to create a specific effect to enable multi-domain battle. For more information on targeting see JP 3-60, and ATP 3-60.

FIRES CELL

3-1. The fires cell uses the Army targeting methodology (referred to as D3A) to manage the targeting cycle. At a minimum, the fires cell is responsible for identifying targets, for inclusion in the joint targeting process, the division commander's AGM, and the division commander's HPTL for the current cycle. Fires cell personnel must understand the targeting deadlines and how to influence the targeting cycle to achieve the division commander's objectives.

3-2. The division fires cell synchronizes fires and directs the engagement of targets by fire support assets. It coordinates joint air support requirements for plans and future operations through the TACP and ALO and current operations with the ASOC or JAGIC. When the division is designated the senior tactical echelon the division fires cell coordinates air support requirements with their higher headquarters (corps).

FIRES SECTION

3-3. The fires section provides the FSCOORD the ability to synchronize Army, Joint, and Multinational fire support and FA and ADA sensor management. The fires section conducts targeting and provides input to the information collection plan.

3-4. Fires section responsibilities include:

- Integrate all forms of Army, Joint, and Multinational fires.
- Submit component critical targets for joint force commander time-sensitive target (also called TST) recommendations. Conduct target development.
- Conduct target coordinate mensuration (when required).
- Conduct collateral damage estimation.
- Review and comply with rules of engagement.
- Develop and maintain the HPTL.
- Consolidate, prioritize, and nominate targets for inclusion in the JIPTL.
- Conduct deliberate and dynamic targeting.
- Provide input to collection plan.

TACTICAL COMMAND POST FIRES ELEMENT

3-5. If fires section personnel are moved to the tactical command post they form a fires element. Fires element responsibilities include:

- Integrate all forms of Army, joint, and multinational fires.

- Coordinate with movement and maneuver cell.
- Interface with the battlefield coordination detachment and higher headquarters joint fires element.
- Coordinate with other components.
- Process, approve, deny, and modify immediate ASRs.

TARGETING PERSONNEL RESPONSIBILITIES

3-6. The commander is responsible for the targeting effort. Fires, intelligence, and operations staff officers form the core of the targeting working group. The targeting working group has three primary functions in assisting the commander:

- Help in synchronizing operations.
- Recommends the appropriate assets to detect and engage targets.
- Identify the level of combat assessment required. Combat assessment can provide crucial and timely information to allow analysis of the success of the plan or to initiate revision of the plan.

TARGETING RESPONSIBILITIES

3-7. Targeting begins with the commander and the operations process and includes the operations officer, fires, airspace, intelligence, and other supporting staff and liaison personnel. The formal structure of the staff and liaison elements at division depends on the resources allocated and the operational environment. Tailoring the formal staff structure to an effective and efficient working environment is routinely accomplished to ensure a cohesive, coordinated targeting effort. Key personnel and their targeting responsibilities follow.

DIVISION COMMANDER

3-8. The division commander issues targeting guidance. The commander's concept of operations, mission statement, and intent define the commander's objectives and are structured to facilitate a shared understanding and focus for the targeting working groups. The commander's primary targeting responsibility lies in establishing the objectives that subordinate commanders will achieve. The division commander should influence the priorities of joint airpower to support Army operational requirements by providing inputs to the joint force commander's air apportionment decision.

CHIEF OF STAFF

3-9. The chief of staff may represent the commander in chairing targeting boards. The chief of staff provides guidance to the targeting working groups in the absence of the commander. The chief of staff is responsible for coordinating the efforts of the staff sections to ensure targeting products meet the commander's guidelines and intent.

DIVISION OPERATIONS OFFICER

3-10. The division operations officer targeting duties include:

- Supervises the development of the HPTL, AGM, and BDA requirements and ensure they are integrated into the decision support template and with the other members of the targeting working group.
- Periodically reassess the HPTL, AGM, and BDA requirements with the intelligence plans and operations officers.
- Determine if the assessments provided by the staff resulted in the desired effects or if additional attacks are required.
- Determines ASR review procedures, prioritization and approval authorities.

DIVISION INTELLIGENCE OFFICER

3-11. The division intelligence officer synchronizes the information collection plan and provides information on the current enemy situation as well as provides estimates as to what the enemy is capable of doing in the future. The intelligence officer provides assessments of probable enemy actions, analyzes, and identifies targets based on the commander's guidance. The intelligence officer targeting duties include:

- Develop and provide IPB products to the other targeting working group members.
- Develop and refine HVTs.
- Pass HPTs and suspected HPTs to the fires cell.
- Develop and refine HPT data.
- Develop, monitor, and refine the HPTL, AGM, and BDA requirements with other members of the targeting working group.
- Distribute the information collection plan to collection managers.
- Provide input to the fires cell on TSS.
- Periodically reassess the HPTL, AGM, and BDA requirements with the FSCOORD and operations officer.
- Reports BDA and, with the division operations officer, determines if an engagement created the desired effects or if additional engagements are required.

FIRE SUPPORT COORDINATOR

3-12. The FSCOORD works closely with the fires cell and the unit's staff elements to facilitate the integration of lethal and nonlethal effects in support of current operations. The FSCOORD works closely with the operations and intelligence officers in anticipating and planning for future operations. The fires cell coordinates Army, Joint, and Multinational fires through targeting. Specific targeting duties of the FSCOORD include:

- Plan, coordinate, and synchronize all aspects of targeting.
- Advise the division commander and staff of available targeting capabilities.
- Provide targeting recommendations for potential courses of action.
- Chair the targeting working group.
- Work with the commander, deputy commander, and chief of staff to integrate all forms of Army, joint, and multinational fires.

CHIEF OF FIRES

3-13. The chief of fires is responsible for the training and functioning of the fires cell. The chief of fires provides the latest status of targeting resources and assists with finalizing the HPTL. The chief of fires targeting duties include:

- Provides oversite of the JAGIC.
- Coordinate the functions of the targeting working group.
- Recommend target priorities for acquisition and engagement based on target value analysis and war gaming.
- Recommend to the chief of staff methods of engagement for targets.
- Support the other members of the targeting working group to develop the HPTL, AGM, and BDA requirements.
- Develop timeliness and accuracy guidelines for the TSS for use by the field artillery intelligence officer and the fires cell with the plans and operations officer.
- Monitor changes in the situation and reassess the HPTL, AGM, timeliness and accuracy guidelines of the TSS, and BDA requirements.
- Synchronize timing of engagement with the operations officer and subordinate units.
- Coordinate support for subordinate unit's engagement requirements.
- Coordinate SEAD.

- Receive BDA and, with the intelligence officer and operations officer, determine if an attack resulted in the desired effects or if additional engagements are required.
- Ensure target nominations meet validation review for integration on the joint integrated prioritized target list.

FIELD ARTILLERY INTELLIGENCE OFFICER

3-14. The field artillery intelligence officer targeting duties include:

- Collocate with the intelligence staff particularly the collection manager and all-source analysis section.
- Provide the intelligence section with information on the targeting requirement that must be met for successful target engagement.
- Expedite targeting information from the analysis and control element to the fires cell.
- Monitor the enemy situation and keep the FSCOORD or chief of fires informed.
- Recommend changes to priorities and engagement means.
- Provide input concerning the threat, attack guidance, and list of HPTs.
- Supervise or conduct weaponeering when applicable.
- Supervise or conduct collateral damage estimation when applicable.
- Provide information to the intelligence cell regarding accuracy requirements and timeliness of information for fires capabilities.
- Ensure essential target information is compared to TSS prior to passing a target to the fires cell.
- Advise the FSCOORD or chief of fires when changes in the situation warrant reassessment of the HPTL and AGM.

TARGETING OFFICER

3-15. The targeting officer's duties include:

- Advise and keep the FSCOORD or chief of fires informed on issues concerning targeting and fire support.
- Participate as a member and may be designated the lead of the targeting working group and targeting board.
- Help develop the HPTL.
- Supervise or conduct target coordinate mensuration when applicable.
- Conduct munitions effects analysis (weaponeering) when applicable.
- Supervise or conduct collateral damage estimation when applicable.
- Interface with the fires cell of higher, lower, and adjacent units.
- Keep the field artillery intelligence officer informed on changes to the HPTL.
- Pass targets received from the field artillery intelligence officer to engagement systems in the most expedient manner.
- Review, quality control and validate ASRs before approval.
- Attend and provide input to the airspace coordination working group to support airspace plan development that supports division targeting and fires planning.

ELECTRONIC WARFARE OFFICER

3-16. The EW officer integrates electronic attack in targeting and integrates electronic attack information requirements into the OPLAN, OPORD, and other planning products. The EW officer plans and coordinates electromagnetic activities. The EW officer interfaces between division and higher headquarters, the joint force air component command, multinational forces, and other components. The EW officer support to targeting includes:

- Recommend to the commander's staff whether to engage a target with an electronic attack.
- Determine the electromagnetic requirements against specific HPT.

- Ensure electronic attacks meet the desired effect for targeting objectives.
- Coordinate with the FSCOORD or chief of fires to integrate cyberspace electromagnetic activities into targeting.
- Coordinate with the FSCOORD or chief of fires to prepare the fires annex for the OPLAN or OPORD.
- Coordinate, prepare, and maintain the EW target list, electronic attack tasking, and requests.
- Identify opportunities for effective targeting using electronic attacks.
- Expedite cyberspace electromagnetic activities reports to the targeting working group.

ENGINEER OFFICER

3-17. The engineer officer's support to targeting duties include:

- Advise on the obstacle and barrier plan.
- Advise on engagement of targets with scatterable mines.
- Template potential HPT (mechanical breaching and minelayers).
- Assist in developing time-phase lines on the decision support templates and describe the effects of terrain on maneuver.
- Develop HPTL, AGM, and BDA requirements with other members of targeting working group.
- Recommend HPTs, named areas of interest and target areas of interest to support the employment of fires in support of obstacles.
- Advise on environmental issues and coordinates with other members to determine the impact of operations on the environment.

PSYCHOLOGICAL OPERATIONS OFFICER

3-18. The psychological operations officer's targeting duties include:

- Identify potential targets such as HPTs to be influenced.
- Provide input to the command targeting guidance.
- Coordinate military information support operations-focused targeting with relevant sections such as fires, information operations, civil affairs, and the deception officer.

CIVIL AFFAIRS OPERATIONS STAFF OFFICER

3-19. The civil affairs operations officer input to targeting include to:

- Advise on the effects of friendly operations on the civilian populace.
- Produce input to the joint target list, restricted target list, and no-strike list.
- Coordinate and provide situational awareness of the civil components to IPB and targeting.

OTHER PERSONNEL

3-20. Other personnel and agencies that will support targeting include the following:

- Judge Advocate.
- Air-naval gunfire liaison company (ANGLICO) representative.
- State Department and other United States government and non-governmental agencies.
- ALO.
- Chaplain.
- Surgeon.
- Public affairs officer.

TARGETING WORKING GROUP

3-21. The key targeting personnel previously detailed comprise the targeting working group. The division commander can tailor the targeting working group to meet the objectives of a specific mission. Targeting

working group sessions must be effectively integrated into the division battle rhythm and nested within the higher headquarters targeting cycle.

3-22. The timing of targeting working group sessions is critical. The time-focus for division level targeting working group is generally based on the joint air tasking cycle battle rhythm that normally ranges 72-96 hours of planning for each ATO period. The duration of each ATO period is 24-hours. The BCD should provide the Army component headquarters with the suspense for preplanned ASRs to participate in the planning stages at the JAOC. However, commanders must choose a targeting cycle based on the pace of operations. The FSCOORD also schedules internal fires cell targeting meetings so target nominations arrive within the division and higher echelon target nomination windows. Although the Army operations process is event driven, the JAOC planning is time driven with specific suspense to task air missions on the ATO and get approved target nominations on the JIPTL to support Army operations.

3-23. The number and frequency of targeting working group meetings varies based on the battle rhythm and the commander's guidance. The FSCOORD, fires cell planners, and targeting working group personnel assess ongoing targeting efforts, and ensure ASRs with target nominations are processed through the higher headquarters to meet joint task force targeting timelines.

TARGETING AND RELATED PRODUCTS

3-24. Army targeting uses the functions of decide, detect, deliver, and assess (referred to as D3A) as its methodology. Targeting:

- Integrates and synchronizes fires into unified land operations.
- Uses available capabilities to create a specific lethal or nonlethal effect on a target.
- Begins during pre-hostilities with deliberate planning and continues throughout the entire operation.

3-25. The targeting working group brings various members of the division staff together to synchronize targeting and related targeting products. During the development of each COA, the targeting working group determines the targets that, when successfully attacked, will contribute to the success of the division's mission. The group selects potential HPTs for each division COA. The targets are developed from among the high-value targets identified, and assumptions of the enemy commander's intent developed during mission analysis. A *high-value target* is a target the enemy commander requires for the successful completion of the mission (JP 3-60). The focus of the effort is to identify the capabilities required by the enemy and the targets that enable the enemy ability to successfully achieve anticipated objectives. Using the information developed, the targeting working group identifies the purpose for engaging targets. The analysis specifies the particular function, capability, or units to be engaged; when and where they should be engaged, and the desired effects to be created by successfully engaging these targets. The targeting working group deconflicts targets, identifies the change in enemy activity desired (develops MOP and MOE assessment criteria), and develops plans by which fires, reconnaissance, TA, and intelligence capabilities are positioned to detect, engage, and assess identified HPTs in time and space.

3-26. When nominating targets for engagement, the fire support planners submit their requests for information to the G-2. If these targets are approved they become priority information or intelligence requirements that the G-2 adds to the information collection plan. If the division does not have the assets or resources to answer the requirements, the target may not be engaged unless attack guidance specifies otherwise or the commander so directs. The targeting working group (see ATP 3-60) performs this synchronization. Fire support planners must synchronize the lethal attack of targets with any directed nonlethal capabilities.

3-27. The fire support planning team at different echelons may desire to engage the same targets or may require different effects. Therefore, targeting includes coordinating and deconfliction of targets with higher, adjacent, supporting, and subordinate echelons. Other staff elements may identify targets for engagement using fires or other means. The targeting working group develops target engagement recommendations and presents them to the division G-3 to ensure the appropriate delivery asset is assigned to create the desired effects. The division commander ultimately determines how to best employ available resources to engage these targets.

3-28. Parallel planning must begin as early as possible in the MDMP. The fire support planners exchange and share all pertinent information with subordinate units and adjacent and higher headquarters.

3-29. Division staff of all warfighting functions participate in the targeting working group and war gaming to ensure a complete understanding of what targets must be engaged. They also recommend where, when, and which system(s) will be used to detect and engage them to create the division commander's desired effects. Together, they identify the available assets to be allocated, additional assets required, and communication channels needed to provide information on a real-time basis.

3-30. The targets identified are linked to validated information collection requirements in the initial information collection plan (see FM 3-55). The initial information collection plan is developed to identify which assets are available to detect the targets where and when the engagement can be most effective. As collection requirements for acquisition of targets are developed through information collection, assets are committed to detect HPTs. Using a systematic process, the fires cell focuses available resources and refines targeting information so that HPTs can be effectively engaged.

HIGH-PAYOFF TARGET LIST

3-31. The *high-payoff target list* is a prioritized list of high-payoff targets by phase of the operation (FM 3-09). The HPTL is a dynamic document that is continually refined, during both planning and execution, based on the situation and commander's guidance. Too many HPTs will dilute the information collection, acquisition, and attack efforts. A *high-payoff target* is a target whose loss to the enemy will significantly contribute to the success of the friendly course of action (JP 3-60). HPT engagements are critical to the success of friendly operations based on the division commander's targeting guidance. See table 3-1.

Table 3-1. Division high-payoff target list (example)

Phase of the Operation—1—Isolate the Enemy Unit:		
Priority	***Category***	***High-Payoff Target***
1	**Fire support**	**Multiple rocket launchers**
2	**Maneuver**	**Mechanized reserves**
3	**C3**	**≥ Battalion headquarters**
4	**RSTA**	**Counterfire radars**
5	**ADA**	**Surface-to-air missile launcher**
Category input is as found in advanced field artillery tactical data system ADA – air defense artillery C3 – command, control, and communications RSTA – reconnaissance, surveillance, and target acquisition		

3-32. HPTs are those nodes within the enemy high-value target set that when eliminated cause the set to become dysfunctional, thus enhancing the likelihood of enemy failure and division success. High-value target sets include those capabilities, functions, or systems that are critical to the enemy in the context of an operation. Target sets are identified and prioritized for each phase of the operation. Within the sets, individual targets are rank-ordered by target value, sequence of appearance, importance, or other criteria that satisfy the targeting guidance and thus create desired effects. In this way, the targeting working group reduces, modifies, and reprioritizes high-value targets while ensuring that HPTs support the division commander's concept of operations. For more detail on HPTs and the HPTL see ATP 3-60.

Target Selection Standards

3-33. ***Target selection standards*** **are criteria applied to targets to determine when and if they will be engaged**.

3-34. Effective target selection requires a thorough knowledge of enemy doctrine and tactics, an appreciation of the terrain, expertise with the available resources (lethal and nonlethal capabilities, sensor, and collection), and friendly force vulnerabilities and risk elements. The targeting working group predicts enemy actions following a successful attack. For example, the successful suppression of indirect fires directed against the division may require the elimination of a finite number of enemy firing batteries achieved either by destruction, the loss of communications, and the abandonment of weapons by their crews, or a combination of effects.

3-35. TSS (see table 3-2) are usually disseminated as a matrix. Military intelligence analyst's use TSS to develop targets from combat information. Once they are developed the analysts pass them to fires cell for engagement. Fires cells use TSS to determine whether to engage a potential target.

Table 3-2. Division TSS (example)

High-Payoff Target	*Timeliness*	*Accuracy*
Multiple rocket launchers	≤10 minutes	≤150 meters
Mechanized reserves	≤30 minutes	≤100 meters
≥ Battalion headquarters	Within two hours of H-Hour	≤200 meters
Counterfire radars	≤20 minutes	≤100 meters
Surface-to-air missile launcher	≤15 minutes	≤100 meters

Target Synchronization Matrix or modified Target Synchronization Matrix

3-36. An excellent planning and preparation tool, the target synchronization matrix or modified target synchronization matrix graphically communicates the details of the scheme of fires. It represents the engagement of targets in time and space. The target synchronization matrix links HPTs to targeting and delivery assets and to assessment criteria. It provides a check to ensure that all the links specified in the fires plan are coordinated. This product incorporates data from the HPTL, the information collection plan, and the AGM into one matrix. These provide detailed descriptions of targets, tentative target locations based on IPB see ATP 2-01.3 and ATP 2-19.4), and, in modified form, can provide the task and purpose of each target and link each target to the fires task it supports. The overlay provides a graphic depiction of the target locations and size, and, when used with the maneuver graphics and the fires paragraph gives a clearer understanding of the fire support plan.

NOTE: The targeting working group may prepare a target synchronization matrix for each COA, or may use the HPTL, TSS, and AGM for the war game and prepare a combined target synchronization matrix for only the approved COA. For more information on the targeting working group and developing a target synchronization matrix see ATP 3-60.

TARGETING BOARD

3-37. The targeting board is generally more formal than the targeting working group and is focused on updating the commander, gaining new guidance, and obtaining approval of planned and proposed targeting actions. The targeting board presents targeting information, situation updates, provides recommendations, and obtains decisions from the commander.

3-38. The targeting board is normally chaired by the commander or a designated representative, usually the deputy commander or chief of staff.

EFFECTS CREATED BY ENGAGING THE TARGETS

3-39. Targeting systematically analyzes and prioritizes targets and matches appropriate lethal and nonlethal capabilities to those targets to create specific desired effects that achieve the commander's objectives. (JP 3-60) The commander's targeting guidance is articulated clearly and simply to enhance understanding. Targeting guidance must focus on essential enemy capabilities and functions that could interfere with the achievement of friendly objectives. Based on the division commander's targeting guidance, the fire support planning team links desired effects to actions and tasks.

3-40. Effects refer to the target engagement criteria in the AGM. The targeting working group should specify engagement criteria according to the commander's general guidance. Target engagement criteria should be given in quantifiable terms. Engagement criteria can be described in standard terms such as destroy, neutralize, or suppress. For more information on all aspect of targeting see ATP 3-60.

Chapter 4

Fires Sensor Integration

This chapter discusses how DIVARTY will integrate and synchronize FA and ADA sensors for the division. Sensor integration is an integral part of ensuring the coordination necessary for providing rapid access to sensors that are able to detect, identify, and locate targets, develop targetable intelligence, and provide timely and accurate information for commanders and their staff.

SECTION I – INTEGRATION RESPONSIBILITIES

DIVARTY SENSORS

4-1. The DIVARTY integrates and synchronizes FA and ADA sensors capabilities through targeting and the information collection effort. This integration and synchronization allows the division to maximize its capabilities and to create effects in order to achieve the commander's objective. To ensure this synchronization and integration is achieved, the FSCOORD works closely with the division G-2, G-3, field artillery intelligence officer, counterfire officer, systems integrator, and fires cell to determine the best means to accomplish sensor integration.

4-2. The DIVARTY staff involved with sensor synchronization and integration must review all fires sensor assets available to the division and create an inventory of capabilities. The staff integrates DIVARTY fires sensors with those resources available from the division or higher echelons. Cross-cueing of assets will increase the accuracy of targeting data.

4-3. While reviewing the available sensors, the staff evaluates these assets according to their capability and availability. First, the staff measures the capabilities of the sensor assets. They must know the location and the practical capabilities and limitations of all available assets. Capabilities and limitations may include:

- Range.
- Day and night effectiveness.
- Technical characteristics.
- Reporting timeliness.
- Geolocation accuracy.
- Durability.
- Threat activity.
- Sustainability.
- Vulnerability.
- Performance history.
- Target location error.
- Dwell time.

4-4. Sensor capabilities will also differ based on mission, objectives, organization and equipment. The division and DIVARTY staffs must be proactive in understanding the capabilities and limitations of the sensors in support of the division.

SECTION II – SENSOR INTEGRATION

4-5. The DIVARTY will integrate and synchronize the division's fires sensors, to facilitate the division's counterfire, target development, and air defense tasks. DIVARTY's responsibility for the

integration and synchronization of these sensors may include positioning, zone management, and identifying gaps in coverage between BCT boundaries.

FIELD ARTILLERY SENSORS

4-6. Counterfire is the division commander's responsibility. The designated counterfire headquarters will manage all TA sensors in the division AO. The DIVARTY target processing section may manage the division counterfire operation. This may include the positioning and control of all WLRs within the division's AO. The target processing section recommends and coordinates WLR search sectors within the division AO and adjusts the coverage as the situation develops. Integration of these sensors requires close coordination between the division and DIVARTY staff involved with counterfire and target development. Sensor integration for the WLRs must include proper planning for survivability. The WLR survivability matrix in table 4-1 can be used as a quick reference. For more information on FA WLRs see ATP 3-09.12.

Table 4-1. Radar Survivability Matrix

<table>
<tr><th>System</th><th>Screening crest</th><th>Tunneling</th><th>Electronic warfare threat</th><th>Position has screening crest and tunneling</th><th>Position screening crest only</th><th>Position has neither screening crest nor tunneling</th></tr>
<tr><td rowspan="2">AN/TPQ-36/37

AN/TPQ-53 in 90 degree mode</td><td rowspan="2">Less than 1 kilometer of the position in friendly territory 15–30 mils.</td><td rowspan="2">The use of foliage, berm, or buildings to reduce side lobe radiation.</td><td rowspan="3">Radar sections utilize EW function within their software.

Counterfire officer provides the current EW status for their AO.

Continuous radiation time should not exceed two minutes when the enemy has electronic detection capabilities</td><td>>15 minutes of accumulation</td><td>>15 minutes of accumulation</td><td>>8 minutes of accumulation</td></tr>
<tr><td colspan="3">Continuous radiation criteria—
• Tactical situation
• Electronic threat (high, medium, low)
• Mission driven situation (CAS)</td></tr>
<tr><td>AN/TPQ-50

AN/TPQ-53 in 360 degree mode</td><td>Mask angle not greater than 100 mils.</td><td>Any building or vehicle less than 20m distance may degrade operation of or damage equipment.</td><td>Never position in a deep depression or valley between hills. The performance will be severely degraded.</td><td></td><td></td></tr>
<tr><td colspan="7">AO – area of operations CAS – close air support EW – electronic warfare m-meters</td></tr>
</table>

4-7. TA assets may be held under centralized or decentralized control. Centralized control optimizes coverage to support the commander's intent. To maximize the centralized control, the division commander may task organize the BCT's WLRs under the control of the DIVARTY. The Corps commander may augment the division with a FAB which can be given a support relationship of reinforcing the DIVARTY. The FAB may be designated the counterfire headquarters for the division. Under decentralized control there is no single headquarters orchestrating the counterfire fight. The decentralized method is preferred when the division does not have a supporting FAB or other allocated firing asset. Without a supporting FAB or other allocated assets the division fires cell does not have the required assets (indirect weapon systems) necessary to perform counterfire without changing command and/or support relationships). The DIVARTY as the force field artillery headquarters performs the following tasks:

- Designates general position areas, sectors of search, and zones.
- Establishes cueing guidance.
- Designates cueing agents.
- Controls radar movement.
- Designates who receives WLR acquisitions.
- Manages frequencies of all WLRs and Air Defense Radars.
- Establishes quickfire channels as necessary.

4-8. TA planners must ensure a smooth transition from one phase to the next by providing continuous radar coverage across the division's AO. Requirements for radar positioning and movement are identified during MDMP and tied to specific events. This allows continuous coverage by facilitating mutually supporting coverage between radars.

4-9. A method for providing continuous radar coverage is done by moving one or more radars while another radar covers the moving radars sector of search. Triggers for initiating this movement can be based on phase lines, events, or time determined during the planning process. The movement of radars must be synchronized with the scheme of maneuver.

4-10. Appropriate intelligence and all TA assets to include WLRs must be prioritized and properly tasked in order to accurately locate targets. Attack assets must be dedicated to attacking the enemy's total fire support system.

4-11. Radar sections are a valuable asset and must be protected. Positioning of these assets must take into consideration their vulnerability to enemy attack. Additional security assets should be assigned to protect the radars. Another means of protecting the radars is through the use of deception radars. These deception assets must be built which takes time, energy and resources.

4-12. The WLRs are positioned to support the division commander's scheme of maneuver during the offense and provide radar coverage for his most vulnerable assets during the defense by using critical friendly zones. Planners must consider and monitor the use and integration of call for fire zones and critical friendly zones in both the offense and defense. Sensor data received during counterfire operations is transmitted to the appropriate agencies.

AIR DEFENSE ARTILLERY SENSORS

4-13. The air defense airspace management element provides coordination and integration of the Sentinel (AN/MPQ-64) radar. The Sentinel radar provides persistent surveillance and fire control quality data through external mission command platforms, enabling protection against cruise missiles, aircraft, and UAS threats. This sensor provides extended range surveillance of the airspace and detects, acquires, tracks, classifies, discriminates, and identifies aerial objects from near-ground level to high altitudes, in difficult terrain, and in adverse weather conditions.

4-14. Sentinel is a beyond visual range sensor that detects, tracks, classifies and identifies air tracks and is used to alert friendly forces of possible air attack. Sentinel additionally provides critical air surveillance, early warning, and targeting information to the Forward Area Air Defense Command, Control, Communications, and Intelligence (also referred to as FAAD C3I) System to the air defense airspace management element.

4-15. This information provides early warning against air breathing threats classified as cruise missiles, fixed- and rotary-wing aircraft, unmanned aircraft systems and air defense threats. Sentinel is also used to perform airspace clearance missions for rockets, artillery, and mortar threats and may augment radar coverage and cueing functions of an ADA task force operating in the corps or division area of operations. The Sentinel capability must be integrated with the division's fires cell to ensure integration and synchronization. This ensures that the DIVARTY achieves coordination, integration, and synchronization of all division fires sensors. For more information on the capabilities of the Sentinel radar see ATP 3-01.48.

4-16. The division may have rapid access to nonorganic sensors that have the capability to detect targets. These sensors may include Army, Joint or Multinational assets. A working knowledge of these sensor capabilities and the necessary communications channels used to pass information among these sensors will provide a seamless process for deconfliction, synchronization, and integration within the division.

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Appendix A

Field Artillery Support Plan

The FSCOORD and the fires cell personnel participate in the division's planning process, which includes developing and disseminating the FA support plan. The division commander's selected COA, concept of the operation, intent, and all guidance given during the planning process form the basis for developing the division OPORD. The OPORD merges maneuver and fires. Paragraph three of the OPORD outlines how the maneuver commander wants to use fire support and maneuver assets. The FA support plan, prepared by the fires cell personnel, provides the detailed fire support information that supports the division plan.

SECTION I - RESPONSIBLITIES

A-1. The chief of fires is responsible for preparing the fires portion of the scheme of fires subparagraph of the division OPORD (paragraph 3e). The chief of fires also coordinates the preparation of the fires subparagraph or annex D (FIRES) of the OPORD. The fire support plan includes a subparagraph for each fire support agency involved in the operation. The appropriate fire support representatives within the division main CP prepare input for these subparagraphs. The DIVARTY S-3 is responsible for the preparation of appendix 4 FA support plan to Annex D fires of the OPLAN or OPORD. See table A-1 for responsibilities.

Table A-1. Formal Fire Support Planning Responsibilities

Element	*Individual Responsible*	*Fire Support Plan*	*Fires Annex*	*FA Support Appendix*	*Air Support Appendix*	*Naval Surface Fire Support*	*Air & Missile Defense Appendix*
Division command post	Chief of Fires	X[1]	X		X[2]	X[3]	
AMD	Air Defense Officer						X
DIVARTY CP	DIVARTY S-3			X			

Notes:
[1] Assisted by appropriate fire support agency representatives.
[2] Assisted by Air Liaison Officer.
[3] Assisted by Air Naval Gunfire Liaison Company or Naval Gunfire Liaison Officer.

AMD – air and missile defense ANGLICO – air-naval gunfire liaison company
CP – command post DIVARTY – division artillery
FA – field artillery

SECTION II - FIELD ARTILLERY SUPPORT PLAN

A-2. The DIVARTY's OPLAN or OPORD is normally used in lieu of a FA support plan. If a FA support plan is used, it is an appendix to the fires annex to the division OPLAN or OPORD. The FA support plan provides for coordinated action to carry out the decisions of the DIVARTY commander in support of the division's operation. For more information on the FA support plan see ATP 3-09.42.

A-3. The FA support plan follows the format of the five-paragraph OPLAN or OPORD and refers to both the division OPLAN or OPORD and its fires annex. The FA support plan may reiterate critical items of information to ensure that all supporting commanders and staffs receive the information.

A-4. The FA support plan should not include information already available in a unit's SOP. The purpose of the written plan is to inform subordinate and supporting units of tasks and requirements that are peculiar to a specific operation. The format for a FA support plan is illustrated in Figure A-1 on page A-3 and is continued through page A-6. Explanations are given for the various paragraphs and subparagraphs in the relevant portions of the order.

A-5. Prepare tabs for portions of the plan that are better explained in a different format (for example, as an overlay or a matrix), that are too extensive to be in the plan, that are expected to change, or that are submitted too late to be included in the body of the FA support plan. Common tabs include:

- FA support matrix.
- Target lists.
- Fire plan schedules.
- Survey.
- TA.
- Digital AFATDS fire direction system links and subscriber tables).
- FA positioning and movement overlay.

(CLASSIFICATION]
(Change from verbal orders, if any)

Place the classification at the top and bottom of each page of the document. Mark also the proper classification for each paragraph. Include the heading if the plan is distributed separately.

Copy ## of ## copies
Issuing headquarters
Place of issue
Date time group of signature
Message reference number

APPENDIX (#) (FIELD ARTILLERY SUPPORT) TO ANNEX D (FIRES) TO [OPLAN] [OPORD] [NUMBER] [CODE NAME] [(CLASSIFICATION OF TITLE)]

References: *Refer to higher headquarters' OPLAN or OPORD. List any maps, charts, or other documents (tactical standard operating procedures and so on) required to understand the plan or order. Reference to a map includes the map series number, country or geographic area, sheet names or number, edition, scale, and the force common datum (see note below from a global positioning system (specify type of global positioning system and datum used) or from the center of the lower margin on a map. Reference listed here should not be reprinted in tabs unless tabs are separated from the basic document.*

Note: Universal Transverse Mercator coordinates from the same point computed on a different datum may differ as much as 900 meters.

Time Zone Used throughout the Plan or Order: *The time zone that is applicable to the operation. Times in other zones are converted to this zone for this operation. Maintain consistency throughall documents.*

1. (U) Situation. *Paragraph 1 includes items of information affecting field artillery operations that may or may not be included in paragraph 1 or in the fires subparagraph of the division OPLAN or OPORD or its fires annex. Discuss, as necessary, the area of interest, area of operations, terrain, and weather. Give an overview of the general situation so subordinate and supporting unit commanders can understand the operational environment. If all organic, attached, or supporting unit commanders do not receive complete copies of the division OPLAN or OPORD and fire support plan, then the field artillery support plan must repeat those items critical to the execution of their missions.*

a. (U) Enemy Forces. *This subparagraph provides enemy information vital to the field artillery. This includes enemy indirect fire capabilities that may influence field artillery activities, the ground threat, the air threat, and any other enemy information of particular relevance to the field artillery units. Reference may be made to an intelligence annex, an overlay, a periodic intelligence report, or an intelligence summary.*

(1) (U) General Overview of the Enemy's Disposition and Mission. *Overview statement.*

(2) (U) Specific Information of the Threat to the Field Artillery.

[page number]
[CLASSIFICATION]

Figure A-1. Field artillery support plan annotated format.

[CLASSIFICATION]

APPENDIX (#)(FIELD ARTILLERY SUPPORT) TO ANNEX D (FIRES) TO (OPLAN) (OPORD) [number] [code name] ((classification of title))

(a) (U) Counterfire. *Identify the number of enemy tubes, caliber, weapons types, organization, percent strength, and target acquisition capabilities.*

(b) (U) Ground Threat. *Identify enemy ground attack (mounted and dismounted) capabilities.*

(c) (U) Air Threat. *Identify high, low, and type of assets.*

b. (U) Friendly Forces. *This subparagraph shows the missions of the division and its higher headquarters. Missions of adjacent supporting and reinforcing units may also be outlined here. Information should be limited to that which subordinate commanders need to know to accomplish their missions. The division commander's guidance for fire support is also included in this subparagraph, the DIVARTY commander can supplement this guidance here with any special considerations.*

(1) (U) Supported Maneuver Unit Mission.

(a) (U) Supported Maneuver Unit Intent/Concept. *Combine critical information from the division commander's intent and the maneuver subparagraph.*

(b) (U) Purpose/Priority. *Taken from the fires subparagraph of the division order.*

(2) (U) Adjacent and Supporting Units. *Field artillery and maneuver to include other Services and multinational forces.*

(a) (U) Maneuver.

(b) (U) Field artillery.

c. (U) Attachments and Detachments. *This subparagraph should list supporting field artillery assets attached to and detached from the DIVARTY (for instance a FAB radar or a MLRS or cannon field artillery battalion), including the terms of attachment and effective date-time groups, if appropriate. This includes attached target acquisition assets and sensor system downlinks, as well as detached batteries.*

2. (U) Mission. *Paragraph 2 is a clear, concise statement of the task(s) the division's allocated and supporting field artillery is to accomplish. At a minimum, it should answer the questions who, what, when, where, and why. It includes field artillery tasks determined by the division commander as a result of the mission analysis. Notice that the mission statement does not explain "how" the mission will be accomplished. That is found in Paragraph 3b (Concept of the Operation). "On-order" missions should be included in the mission statement. Be prepared missions should not be included.*

3. (U) Execution. *Paragraph 3 contains the how-to information needed for mission accomplishment.*

[page number]
[CLASSIFICATION]

Figure A-1. Field artillery support plan annotated format (continued)

[CLASSIFICATION]

APPENDIX (#)(FIELD ARTILLERY SUPPORT) TO ANNEX D (FIRES) TO (OPLAN) (OPORD) [number] [code name] ((classification of title))

a. (U) Scheme of fires. *Describe how fires support the commander's intent and concept of operations. Establish the priorities of fires to units for each phase of the operation. The scheme of fires must be concise but specific enough to clearly state what fires are to accomplish in the operation. The DIVARTY commander (as the force field artillery headquarters commander) states with respect to the relationship among the field artillery battalions, the threat, and the terrain; and (briefly) how the field artillery battalions as a whole will achieve the end state. The intent clarifies the purpose of the operation and is stated in enough detail to ensure appropriate action by subordinates in the absence of additional specific instructions.*

b. (U) Concept of the Operation. *The structure is the same as the fires annex scheme of fires paragraph, that is, it retains the same phases. State the purpose of the phase from the "scheme of fires "paragraph and then how the field artillery battalion will support that phase. Name the subunits and the interrelationships of how the field artillery battalions will support the phase. Leave the details for the coordinating instructions paragraph. Provide a narrative of how the field artillery battalions will support the operation from beginning to end.*

c. (U) Organization for Combat. *This subparagraph gives a clear statement of the organization and command and support relationships of the subordinate elements of the field artillery battalions. Include anticipated on-order changes to organization or command and support relationships in this subparagraph. List those field artillery units that support the maneuver force-direct support (DS), reinforcing (R) and general support-reinforcing (GSR) units. General support (GS) units do not have to be listed unless assigned a nonstandard mission.*

d. (U) Priority of Fires. *State the priority of fires as it applies to the division. This is found in the scheme of fires paragraph of the fires annex or the fire support execution matrix. If necessary, refer the reader to the field artillery support matrix.*

e. (U) Tasks to Subordinate Units. *This portion is used to issue instructions unique to subunits and to amplify instructions found in the matrices. For example, "See field artillery support matrix and overlay for movement, position areas, azimuths of fire, and location of sustainment units and functions."*

f. (U) Coordinating Instructions. *The last subparagraph in paragraph 3 includes instructions and details of Coordination applicable to two or more field artillery battalion sub-elements. Many issues included in coordinating instructions may also be addressed in tabs to the field artillery support plan. If a separate tab is used, include only items of general interest in the coordinating instructions paragraph. Details of interest only to a particular element are placed in the tab. If a tab is prepared, reference it (for example "See Tab_") in the body of the support plan. This paragraph should include instructions concerning:*

- *Target acquisition (includes a counterfire reference grid and instructions to or about specific target acquisition sources).*
- *Survey includes priorities for survey, accuracy required (if other than standard operating procedures), sources authorized, timing, position requirements, and future plans).*
- *High-payoff target list (from division OPORD, OPLAN or fires cell).*
- *Attack guidance matrix (from division OPORD, OPLAN or fires cell).*
- *Chemical, biological, radiological, nuclear (CBRN) passive defense (includes contamination avoidance techniques, mission oriented protective posture, operational exposure guides, and decontamination procedure)*

[page number]

[CLASSIFICATION]

Figure A-1. Field artillery support plan annotated format (continued)

[CLASSIFICATION]

APPENDIX (#)(FIELD ARTILLERY SUPPORT) TO ANNEX D (FIRES) TO (OPLAN) (OPORD) [number] [code name] [(classification of title)]

- *Meteorology (includes source, type, and times of meteorology messages).*
- *Fire support plan (includes a target list and schedules of fires).*
- *Fire support coordination measures.*
- *Commander's critical information requirements.*
- *Information collection tasks (as appropriate, see FM 3-55).*
- *Rehearsals.*
- *Ammunition restrictions (includes expenditure restrictions, approval requirements, and risk limitations for dual-purpose improved conventional munitions based on expected dud rates).*

4. (U) Sustainment. *Write briefly how sustainment assets will support the mission. Provide non-standard operating procedure information. Address only those sustainment aspects that apply to the overall operation. Put the division commander's directions regarding sustainment here. Address the pertinent aspects of tactical sustainment functions (for example, manning, arming, fueling, fixing, and moving). At a minimum, give the controlled supply rate and the sustainment locations.*

a. (U) Logistics. *Address any of the sustainment functions that are pertinent before, during, or after the operation. Refer to Annex F (Sustainment) as required*

b. (U) Personnel. *Refer to Annex F (Sustainment) as required*

c. (U) Health Service Support. *Refer to Annex F (Sustainment) as required.*

5. (U) Command and Signal. *Write briefly how communications assets will support the mission. Provide non-standard operating procedure information.*

a. (U) Command. *Give the commander's and key leaders planned location during the operation.*

b. (U) Control. *State liaison requirements not covered in the base order.*

c. (U) Signal. *State liaison requirements not covered in the base order.*

ACKNOWLEDGE:
[Commander's last name]
[Commander's rank]

OFFICIAL:
[Authenticator's name]
[Authenticator's position]

ATTACHMENT: *List lower-level attachments as required*

DISTRIBUTION: *Show only if distributed separately from base order or higher attachments.*

[page number]
[CLASSIFICATION]

Figure A-1. Field artillery support plan annotated format (continued)

Appendix B
Counterfire

This appendix discusses techniques for conducting counterfire. Section I breaks down what is counterfire. Section II covers counterfire in support of decisive action. Section III details the execution of counterfire.

SECTION I – COUNTERFIRE

B-1. *Counterfire* is fire intended to destroy, or neutralize enemy weapons (JP 3-09). Counterfire gains freedom for maneuver by destroying or neutralizing the enemy indirect fire capabilities. Counterfire can be accomplished by using different fire support assets to include joint fires. Counterfire must be synchronized and integrated with the current and future scheme of maneuver. Counterfire is proactive, reactive, or a combination of both.

OVERVIEW

B-2. Counterfire accomplishes proactive measures through targeting enemy indirect fire systems, including their command and control, sensors, platforms, and logistics before they engage friendly forces. The proactive measures consists of zone management, site analysis, and position survivability considerations. Proactive measures for counterfire begin with targeting during the MDMP and continue throughout the operation. The intelligence officer and the targeting officer develop named areas of interest and target areas of interest where the enemy indirect fire assets are anticipated and assign collection assets to those areas.

B-3. Reactive measures for counterfire provide immediate indirect fires to neutralize, destroy, and suppress enemy indirect fire weapons once acquired. The fire support systems respond primarily to enemy mortar and artillery fires during or immediately following enemy engagements and actions directly or indirectly focused against friendly forces. Reactive measures for counterfire usually require quick response capabilities for optimum effectiveness and can benefit from the establishment of quickfire channels.

B-4. A quickfire channel can be established using digital (preferred) or voice communications. A quickfire channel allows for rapid engagement of radar acquisitions by streamlining the acquisition of target to shooter link. For example the radar can send its acquisitions straight to a firing unit AFATDS. Positive controls must be established when using a quickfire channel to ensure all clearance of fires procedures are executed.

B-5. All intelligence and TA assets to include WLRs must be prioritized to accurately locate targets. Attack assets must be dedicated to attacking the enemy's total fire support system.

B-6. The FSCOORD is the primary advisor and the DIVARTY is the usual executor of the division counterfire fight. WLRs are positioned to support the division commander's scheme of maneuver during the offense and provide radar coverage for the most vulnerable assets during the defense.

SECTION II – COUNTERFIRE IN SUPPORT OF DECISIVE ACTION

B-7. Operations conducted outside the United States and its territories simultaneously combine three elements—offense, defense, and stability.

COUNTERFIRE IN SUPPORT OF OFFENSIVE TASKS

B-8. The primary role of the WLRs in the offense is to locate enemy targets for attack by friendly fire support systems. During the offense, particular attention must be given to planning WLR moves to ensure continuous operations as the attack progresses.

B-9. Fires cell planners must ensure a smooth transition from one phase to the next by providing continuous radar coverage across the division AO. Requirements for radar positioning and movement are identified during MDMP and tied to specific events. This allows continuous coverage by facilitating mutually supporting coverage between radars. The counterfire officer monitors this process closely to ensure that the use of terrain, movements, and radar zones are properly coordinated.

B-10. A method for providing continuous radar coverage is done by moving one or more radars forward while another radar covers the moving radars sector of search. This can be enhanced by weapons locating radars of one echelon or unit assisting another echelon or units weapons locating radars by providing coverage while they move. Triggers for initiating this movement can be based on phase lines, events, or time determined during the planning process. The movement of radars must be synchronized with the scheme of maneuver.

B-11. The first consideration for radar zones in the offense is for the use of call for fire zones. Establishing call for fire zones facilitates immediate counterfire to suppress, neutralize, or destroy enemy artillery that may disrupt the scheme of maneuver. Critical friendly zones may be planned along the axis of advance and over critical friendly forces determined by the supported commander. Special consideration should be given to gap crossings, breaching forces, choke points, or other vulnerable areas.

B-12. Control of WLRs will generally be more decentralized to facilitate command, control, movement, and cueing. The fires cell planners must ensure that cueing agents are established. This is necessary to streamline the counterfire effort when division forces may be particularly vulnerable to enemy indirect fire.

COUNTERFIRE IN SUPPORT OF DEFENSIVE TASKS

B-13. The primary role of WLRs in the defense is to provide target data and information to allow for counterfire mission processing. Fires cell planners must also consider transitions to offensive tasks such as counterattacks. Positioning, task organization, and on-order missions should facilitate transitions.

B-14. The first consideration is the use of the radar's zone capabilities to provide coverage for critical units or installations using critical friendly zones. The division commander should indicate the assets that are deemed essential to ensure mission accomplishment. If the commander does not identify these assets, the FSCOORD must query the commander for the necessary guidance. Once the guidance is obtained, the information is passed to the fires cell for implementation.

B-15. Call for fire zones are planned on suspected or known enemy indirect fire systems. The intent is to suppress, neutralize, or destroy enemy indirect fire systems before they start their preparatory fires. Call for fire zones are planned based off of IPB and other target indicators. Call for fire zones are used to monitor suspect areas from which enemy indirect fires may jeopardize the mission.

B-16. Artillery target intelligence zones (also called ATIZ) may be established in areas where we are not sure about enemy indirect fires and need to develop the situation. They can also be used in areas of suspected enemy indirect fires that the commander wishes to monitor closely but are out of friendly indirect fire range.

B-17. For more information on zone management see ATP 3-09.12.

COUNTERFIRE IN SUPPORT OF STABILITY TASKS

B-18. Counterfire conducted in support of stability tasks is essentially the same as that conducted for offensive and defensive tasks. Counterfire is an essential combat multiplier during stability tasks. Consideration must be given to the use of 6400 mil (360 degrees) coverage of the entire AO. WLRs are usually positioned in static locations and rarely moved once established. During stability tasks the use of WLRs to provide 6400 mils (360 degrees) coverage becomes an essential factor in counterfire. Due to the nature of stability tasks, it can be assumed that the enemy will have freedom of maneuver and the ability to initiate contact at the time and location of their choosing. Considerations for the clearance of fires in the support area, use of precision-guided munitions, and collateral damage estimation become important issues. Due to the ability of the enemy to fire without being present or to fire from civilian areas, proactive counterfire is of greater importance during stability operations.

POSITIONING

B-19. The DIVARTY operations and counterfire officers recommend to the division commander the general positioning areas for WLRs. The radar section chief selects the final radar site based on Radar Position Analysis System (also called RPAS) and visual sighting. Often, WLRs require a position that permits 6400 mils (360 degrees) coverage. During MDMP, fires cell planners need to factor in the proximity of WLRs operating in 6400 mils (360 degrees) mode in order to adhere to the strict separation requirements. The tactical situation may require positioning of the radar within a static location, which requires consideration of site improvement.

SECTION III – EXECUTION OF COUNTERFIRE

B-20. There are several options for conducting counterfire at any echelon. There is centralized counterfire where the commander executes counterfire through a single headquarters. This is accomplished by the DIVARTY as the force field artillery headquarters. Decentralized counterfire is where the commander does not designate a single headquarters to execute counterfire operations. The commander may also choose to have a mixture of both centralized and decentralized counterfire operations based on mission variables.

B-21. Counterfire is fire intended to destroy or neutralize enemy weapons. Delivery means for counterfire encompasses many systems such as FA, CAS, Army attack aviation, maneuver elements, mortars, and electronic attack. Destruction of enemy fires capabilities that could disrupt and hinder operations is critical to ensure freedom of action for friendly forces. Counterfire can neutralize or destroy all or portions of the enemy's fires capabilities including sensors, delivery systems, control nodes, support systems, and logistics or sustainment areas. Counterfire is a function the division commander must address and is not solely the function of the FSCOORD. All the elements of the combined arms and joint team must be integrated to neutralize the enemy's total fires system. Planning for proactive and reactive counterfire necessitates deconfliction of airspace prior to and during execution of counterfire operations. The division JAGIC can assist with airspace deconfliction of counterfire. See ATP 3-91.1 for more information on the JAGIC and airspace clearance of fires.

CENTRALIZED COUNTERFIRE

B-22. During centralized counterfire the DIVARTY as the force field artillery headquarters executes both proactive and reactive counterfire. The counterfire headquarters executes proactive counterfire through targeting using a mixture of collection assets (to include WLRs) and delivery systems. The counterfire headquarters executes reactive counterfire by conducting positioning authority over WLRs, and designating specific FA units as counterfire firing units.

DECENTRALIZED COUNTERFIRE

B-23. During decentralized counterfire there is no single headquarters orchestrating counterfire. Each subordinate unit is responsible for its own counterfire. For example the FA battalion in a BCT is responsible for counterfire in the BCT's AO. WLRs and firing units are positioned by their organic headquarters instead of the force field artillery headquarters. Because the Division's JAGIC has the responsibility for airspace control within division assigned airspace, careful preparation of airspace must be done to enable this method of counterfire

DIVISION COUNTERFIRE OPERATIONS

B-24. Although the DIVARTY has no organic firing units, it can be provided a variety of FA battalions (rocket and cannon) and other assets as required to execute counterfire for the division. Counterfire in the division's AO is normally the responsibility of the DIVARTY. The DIVARTY target processing section manages counterfire. This includes the positioning and control of the WLRs within the division's AO. The target processing section recommends and coordinates sectors of search within the division AO and adjusts coverage by WLRs as the situation develops. At the division level, this translates to positioning, zone management, looking for gaps in coverage between BCT boundaries, as well as tracking and assisting with WLR maintenance issues.

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Appendix C

Dynamic Targeting Battle Drills

C-1. The clearance of fires battle drills should be approached from a dynamic targeting perspective to offer the timely integration of all available capabilities among Army, Joint and Multinational fires to provide the desired effects for the maneuver commander under the direction of the G-3. Dynamic targeting methodology consists of six steps: find, fix, track, target, engage, and assess (also called F2T2EA). (See ATP 3-60.1).

SECTION I – BASIC DYNAMIC TARGETING DRILL

C-2. In the basic dynamic targeting battle drill, fires will be requested by a subordinate, or adjacent unit from Army, Joint, or Multinational fires capabilities. Following the initial request, the battle drill flows through the fires, aviation, Air Force, AMD functions under the direction of the G-3. For example, in the basic battle drill (see table C-1), the fire cell receives an initial request for support. Simultaneously, all members of the fires cell will take the following steps:

Table C-1. Basis dynamic targeting drill (example)

Step	*Action*
1	Fires cell receives a call for fire, fixed-or rotary-wing request, or a Counter-UAS engagement request.
2	Fires cell identifies and assesses the firing asset's capabilities. AMD officer validates UAS as friend or foe and determines that it cannot be engaged with air defense assets. Coordination with the senior air director or ALO and informs the chief of fires of the decision.
3	Chief of fires requests airspace and ground clearance for fire mission and supervises battle drill by tracking, continued coordination, and synchronization of the status of fires proving updates to the G-3.
4	G-3 initiates air and ground clearance and directs attack guidance and issues fire commands.
5	ALO coordinates airspace clearance above the coordinating altitude and then reports if the airspace is clear. The airspace control officer initiates and supervises division controlled airspace clearance and reports airspace clear.
6	Fixed-wing air space manager and the TAIS operator will adjust airspace control measures to support repositioning assets and will collaborate to build ingress and egress routes.
7	Fixed-wing procedural controller repositions fixed wing assets and communicates CAS mission requirements if requested.
8	ALO and airspace control officer will report airspace status to chief of fires (to include airspace clear or not clear).
9	Chief of fires relays information to the G-3.
10	Fires cell selects firing unit and transmits fire commands under direction of the fire control officer.
11	Airspace control officer repositions fixed and rotary wing assets and communicates requirements.
ALO – air liaison officer AMD – air and missile defense CAS – close air support G-3 – assistant chief of staff, operations TAIS – tactical airspace integration system UAS – unmanned aircraft system	

SECTION II – INTERMEDIATE DYNAMIC TARGETING BATTLE DRILL

C-3. In the intermediate dynamic targeting battle drill, all functions are similarly performed as in the basic drill. However, an additional dynamic targeting function is also executed in which fixed wing air intelligence, the collection manager, the FA intelligence officer, and the targeting officer work collectively to find, fix, and target against the commanders intelligence requirements. See table C-2. They develop targeting options and recommend targeting guidance for engagement. The chief of fires conducts collateral damage assessment analysis and makes recommendations to the G-3. This step is succeeded by the approved prioritized attack guidance coming from the G-3 as a result of a synchronized coordination among the chief of fires, staff judge advocate, G-3, and G-2.

Table C-2. Intermediate dynamic targeting battle drill

Step	*Action*
1	Fires cell receives calls for fire, fixed- or rotary-wing requests or a Counter-UAS engagement request. The targeting cell (G-2 intelligence officer, FW intelligence officer, FAIO, and targeting officer) identifies a target of opportunity and recommends attack guidance to the chief of fires.
2	Fires cell identifies and assesses the firing assets capabilities. AMD officer validates UAS as friend or foe and determines that it cannot be engaged with air defense assets. Coordination with the senior air director or ALO and informs the chief of fires of the decision.
3	Chief of fires conducts collateral damage estimate analysis and provides the G-3 with recommendations for approval or disapproval.
4	G-3 will approve or disapprove rules of engagement and collateral damage estimation analysis and communicates approved target and attack guidance to chief of fires to initiate ground and air clearance.
5	Chief of fires requests airspace and ground clearance for fire mission and supervises battle drill by tracking, continued coordination, and synchronization of the status of fires proving updates to the G-3.
6	ALO coordinates airspace clearance above the coordinating altitude and then reports if the airspace is clear. The airspace control officer initiates and supervises division controlled airspace clearance and reports airspace clear.
7	Fixed-wing air space manager and the TAIS operator will adjust airspace control measures to support repositioning assets and will collaborate to build ingress and egress routes.
8	Fixed-wing procedural controller repositions fixed wing assets and communicates close air support mission requirements if requested.
9	ALO and airspace control officer will report airspace status to chief of fires (to include airspace clear or not clear).
10	Chief of fires relays information to G-3.
11	The G-3 ensures air and ground clearance, directs attack guidance, and issues fire commands.
12	Fires cell selects firing unit and transmits fire commands under direction of the fire control officer.
13	Airspace control officer repositions fixed- and rotary-wing assets and communicates requirements.
ALO – air liaison officer AMD – air and missile defense FAIO – field artillery intelligence officer FW – fixed wing G-2 – assistant chief of staff, intelligence G-3 assistant chief of staff, operations TAIS – tactical airspace integration system UAS – unmanned aircraft systems	

SECTION III – ADVANCED DYNAMIC TARGETING DRILL

C-4. The advanced dynamic targeting battle drill (see Table C-3 on page C-3) is the premier form of the targeting battle drills. It is designed to be an approach to enable real time interdiction to complement strike, coordination, and reconnaissance techniques. This approach ensures that fires planning and FSCMs and ACMs are responsive and accommodating to make the application fires most lethal in high intensity operations.

C-5. In the following example, the fires cell incorporates additional steps to the basic and intermediate drills. These steps are designed to be a continuous process and are as follows:

Table C-3. Advanced dynamic targeting drill (example)

Step	*Action*
1	G-3 and FSCOORD will issue commander's guidance to the staff to support the combined arms maneuver and strike coordination and reconnaissance.
2	The collection manager positions information collection assets in accordance with maneuver commander's guidance, targeting priorities, and mission requirements.
3	Fires cell receives calls for fire, fixed- or rotary-wing requests or a Counter-UAS engagement request.
4	The targeting cell (G-2 intelligence officer, fixed-wing intelligence officer, FAIO, and targeting officer) identifies a target of opportunity and recommends attack guidance to the chief of fires.
5	Fires cell identifies and assesses the firing assets capabilities. AMD officer validates UAS as friend or foe and determines that it cannot be engaged with air defense assets. Coordination with the senior air director or ALO and informs the chief of fires of the decision.
6	Chief of fires conducts collateral damage estimate analysis and provides the G-3 with recommendations for approval or disapproval.
7	The G-3 will approve/disapprove rules of engagement and collateral damage estimation analysis and communicates approved target and attack guidance to chief of fires to initiate ground and air clearance.
8	Chief of fires requests airspace and ground clearance for fire mission and supervises battle drill by tracking, continued coordination, and synchronization of the status of fires proving updates to the G-3.
9	Chief of fires coordinates, directs positioning of assets and establishment of FSCMs and ACMs to support the recommended NAI/TAI and to best enable indirect fire freedom of action.
10	The ALO and airspace control officer coordinate, recommend positioning of assets, and establish FSCMs and ACMs to support the recommended NAI and TAI and best enable indirect fire freedom of action.
11	The ALO receives calls for fire, fixed- and rotary-wing requests and C-UAS engagement requests. They coordinate airspace clearance and then report airspace is clear.
12	Airspace Control Officer initiates and supervises airspace clearance and deconfliction and reports airspace clear.
13	Air space manager and the TAIS operator will adjust airspace control measures to support repositioning assets and will collaborate to build ingress and egress routes.
14	Fixed wing procedural controller repositions fixed-wing assets and communicates close air support mission requirements if requested.
15	ALO and airspace control officer will report airspace status to chief of fires (to include airspace clear or not clear).
16	Chief of fires relays information to the G-3.
17	G-3 ensures air and ground clearance, directs attack guidance, and issues fire commands.
18	Fires cell selects firing unit and transmits firing commands under direction of the fire control officer.
19	Airspace control officer repositions fixed- and rotary-wing assets and communicates requirements.
ACMs – airspace coordinating measures ALO – air liaison officer AMD – air and missile defense FAIO – field artillery intelligence officer G-2 – assistant chief of staff, intelligence G-3 – assistant chief of staff, operations NAI – named area of interest TAI – target area of interest TAIS – tactical airspace integration system	

C-6. Regardless of the dynamic targeting battle drill used, all functions will take place under their own warfighting function control. Fires integrate and synchronize the functions to maximize the efficiencies and the speed of delivery of fires to the supported commander under the direction of the G-3. The G-3 will maintain responsibility of directing the functions that take place during these operations. The G-3 is responsible to ensure these functions are integrated and synchronized with the maneuver force.

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Glossary

SECTION I – ACRONYMS AND ABBREVIATIONS

ACM	airspace coordinating measure
ACO	airspace control order
ADA	air defense artillery
AGM	attack guidance matrix
AFATDS	advanced field artillery tactical data system
AI	air interdiction
ALO	air liaison officer
AMD	air and missile defense
AO	area of operations
ASOC	air support operations center
ASR	air support request
ATO	air tasking order
BCD	battlefield coordination detachment
BCT	brigade combat team
BDA	battle damage assessment
CAS	close air support
COA	course of action
CP	command post
DIVARTY	division artillery
EW	electronic warfare
FA	field artillery
FAB	field artillery brigade
FSCM	fire support coordination measure
FSCOORD	fire support coordinator
G-2	assistant chief of staff, intelligence
G-3	assistant chief of staff, operations
HIMARS	High Mobility Artillery Rocket System
HPT	high-payoff target
HPTL	high-payoff target list
IPB	intelligence preparation of the battlefield
JAGIC	joint air-ground integration center
JAOC	joint air operations center
JFLCC	joint force land component commander
JIPTL	joint integrated prioritized target list
JTAC	joint terminal attack controller

MDMP	military decisionmaking process
MLRS	multiple launch rocket system
MOE	measure of effectiveness
MOP	measure of performance
NGLO	naval gunfire liaison officer
OPLAN	operation plan
OPORD	operation order
S-1	battalion or brigade personnel staff officer
S-2	battalion or brigade intelligence staff officer
S-3	battalion or brigade operations staff officer
S-4	battalion or brigade logistics staff officer
S-6	battalion or brigade signal staff officer
SEAD	suppression of enemy air defenses
SOP	standard operating procedure
TA	target acquisition
TACP	tactical air control party
UAS	unmanned aircraft system
USMC	United States Marine Corps
WLR	weapons locating radar

SECTION II – TERMS

air interdiction

Air operations conducted to divert, disrupt, delay, or destroy the enemy's military surface capabilities before it can be brought to bear effectively against friendly forces, or to otherwise achieve objectives that are conducted at such distances from friendly forces that detailed integration of each air mission with the fire and movement of friendly forces is not required. (JP 3-03)

attack guidance matrix

A targeting product approved by the commander, which addresses the how and when targets are engaged and the desired effects. (ATP 3-60)

clearance of fires

The process by which the supported commander ensures that fires or their effects will have no unintended consequences on friendly units or the scheme of maneuver. (FM 3-09)

close air support

Air action by manned or unmanned fixed-wing and rotary-wing aircraft against hostile targets that are in close proximity to friendly forces and that require detailed integration of each air mission with the fire and movement of those forces. (JP 3-0)

commander's intent

A clear and concise expression of the purpose of the operation and the desired military end state that supports mission command, provides focus to the staff, and helps subordinate and supporting commanders act to achieve the commander's desired results without further orders, even when the operation does not unfold as planned. (JP 3-0)

counterfire

Fire intentded to destroy or neutralize enemy weapons. (JP 3-09)

deep area

The portion of the commander's area of operations that is not assigned to subordinate units. (ADRP 3-0)

defensive task

A task conducted to defeat an enemy attack, gain time, economize forces, and develop conditions favorable for offensive or stability tasks. (ADRP 3-0)

effect

1. The physical or behavioral state of a system that results from an action, a set of actions, or another effect. 2. The result, outcome, or consequence of an action. 3. A change to a condition, behavior, or degree of freedom. (JP 3-0)

fire plan

A tactical plan for using the weapons of a unit or formation so that their fire will be coordinated. (FM 3-09)

fire support

Fires that directly support land, maritime, amphibious, and special operations forces to engage enemy forces, combat formations, and facilities in pursuit of tactical and operational objectives. (JP 3-09)

fire support coordination

The planning and executing of fire so that targets are adequately covered by a suitable weapon or group of weapons. (JP 3-09)

fire support coordination measure

A measure employed by commanders to facilitate the rapid engagement of targets and simultaneously provide safeguards for friendly forces. (JP 3-0)

fire support plan

A plan that that addresses each means of fire support available and describes how Army indirect fires, joint fires, and target acquisition are integrated with maneuver to facilitate operational success. (FM 3-09)

fire support planning

The continuing process of analyzing, allocating, and scheduling fires to describe how fires are used to facilitate the actions of the maneuver force. (FM 3-09)

fires

The use of weapon systems or other actions to create specific lethal or nonlethal effects on a target. (JP 3-09)

fires warfighting function

The related tasks and systems that provide collective and coordinated use of Army indirect fires, air and missile defense, and joint fires through the targeting process. (ADRP 3-0)

function

A practical grouping of tasks and systems (people, organizations, information, and processes) united by a common purpose. (ADP 1-01)

high-payoff target

A target whose loss to the enemy will significantly contribute to the success of the friendly course of action. (JP 3-60)

high-payoff target list

A prioritized list of high-payoff targets by phase of the operation. (FM 3-09)

high-value target

A target the enemy commander requires for the successful completion of the mission. (JP 3-60)

joint terminal attack controller

A qualified (certified) Service member who, from a forward position, directs the action of combat aircraft engaged in close air support and other offensive air operations. (JP 3-09.3)

measure of effectiveness

An indicator used to measure a current system state, with change indicated by comparing multiple observations over time. (JP 5-0)

measure of performance

An indicator used to measure a friendly action that is tied to measuring task accomplishment. (JP 5-0)

military decisionmaking process

An iterative planning methodology to understand the situation and mission, develop a course of action, and produce an operation plan or order. (ADP 5-0)

offensive task

A task conducted to defeat and destroy enemy forces and seize terrain, resources, and population centers. (ADRP 3-0)

running estimate

The continuous assessment of the current situation used to determine if the current operation is proceeding according to the commander's intent and if planned future operations are supportable. (ADP 5-0)

situational understanding

The product of applying analysis and judgment to relevant information to determine the relationship among the operational and mission variables to facilitate decisionmaking. (ADP 5-0)

strike

An attack to damage or destroy an objective or a capability. (JP 3-0)

suppression of enemy air defenses

Activity that neutralizes, destroys, or temporarily degrades surface-based enemy air defenses by destructive and/or disruptive means. (JP 3-01)

***target selection standards**

Criteria applied to targets to determine when and if they will be engaged. Also called TSS.

working group

(Army) A grouping of predetermined staff representatives who meet to provide analysis, coordinate, and provide recommendations for a particular purpose or function. (FM 6-0)

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ATP 3-09.90
12 October 2017

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