# Chapter 9: Indirect Fire Support

This page is a section of TC 7-100.2 Opposing Force Tactics.

Modern battle is, above all, a firefightâ ¯inwhich indirect fire plays a decisive role in the effective engagement of the enemy. Uninterrupted and very close cooperation with the maneuver of supported combined arms units is the basis of the actions of indirect fire support units.

## Fire Support Concepts

Fire support is the collective and coordinated use of target acquisition, indirect fire weapons, and aircraft, integrated with other lethal and nonlethal means, to engage enemy forces in support of a battle plan. The goal is to synchronize all available fire support systems to achieve the most effective results, thereby maximizing combat power. Effective fire support enables OPFOR ground forces to attack successfully and quickly to exploit weaknesses. Commanders try to accomplish their missions using a combination of maneuver, fires, and information warfare (INFOWAR).

The OPFOR stresses that fire support should combine air assets, surface-to-surface missiles (SSMs), and artillery into an integrated attack of enemy targets throughout the area of responsibility (AOR). The combined arms commander always seeks to increase the effectiveness of air and missile strikes and artillery fire to destroy enemy formations, weapon systems, or key components of an enemyâ  combat system. (See Systems Warfare later in this chapter and in chapter 1.) This ensures continuous fire support for maneuver units throughout the AOR.

The OPFOR believes that fire support must be integrated with INFOWAR. INFOWAR provides a nonlethal alternative or supplement to attack by fire and maneuver. It is integrated into the overall concept of the battle, to confuse, deceive, delay, disrupt, disable, and disorganize the enemy at all levels. Fire support can play a role in the physical destruction element of INFOWAR.

The integration of air, artillery, SSM, and nonlethal assets into a unified fire support plan is a major task for the combined arms commander. Integration is a decisive element, fundamental to the success of any tactical action on the modern battlefield. The OPFOR does not consider itself to be an artillery-centric force. Rather, it views itself as using various forms of fire support to achieve success during offensive and defensive combat. In the offense, fire support is important to the success of any attack. It can destroy key enemy systems; disrupt, immobilize, or destroy enemy groupings; and repel counterattacks. Fire support is also the cornerstone of any defense, blunting attacks at the crucial point in the battle. It disrupts enemy preparations for the attack and repels forces.

## Fire Support Principles

The principles of fire support are the framework for a thought process that ensures the most effective use of fire support assets. These principles apply at all levels of command, regardless of the specific fire support assets available:

- Plan early and continuously.
- Exploit all available reconnaissance, intelligence, surveillance, and target acquisition (RISTA) assets.
- Consider airspace management and the use of all fire support (lethal and nonlethal) means.
- Use the lowest level of command capable of furnishing effective support.
- Avoid unnecessary duplication of effort.
- Use the most effective means to accomplish the mission.
- Provide rapid and effective coordination.

- Provide for flexibility of employment.
- Provide for safeguarding and survivability of OPFOR fire support assets.
- Attempt to achieve surprise when possible.
- Deliver highly accurate and effective fire.
- Integrate fire support with maneuver and INFOWAR at all levels.

## Systems Warfare

The foundation of OPFOR planning is the systems warfare approach to combat. Thus, the OPFOR analyzes its own combat system and how it can use the combined effects of this â system of systemsâ to degrade or destroy the enemyâ s combat system. In systems warfare, the subsystems or components of a combat system are targeted and destroyed individually. Once a favorable combat situation has developed, the targeted enemy subsystem is quickly destroyed in high-intensity battle, thus making the enemyâ s overall combat system vulnerable to destruction or at least degrading its effectiveness. (See Systems Warfare in chapter 1 for further information.)

Within the systems warfare approach, the OPFOR employs a fire support concept centered on a phased cycle consisting ofâ

- Finding a critical component of the enemyâ s combat system and determining its location with RISTA assets.
- Engaging it with precision fires, maneuver, or other means.
- Recovering to support the fight against another part of the enemy force.

The primary reason for attacking an enemy with fires is to destroy one or more key components of the enemyâ s combat system and/or to create favorable conditions for destroying other parts of his combat system.

## Techniques to Exploit Enemy Vulnerabilities

The OPFOR seeks to avoid its enemyâ s strengths and exploits his vulnerabilities. When the OPFOR is operating from a position of relative strategic weakness, it seeks to tactically outmaneuver, overwhelm, and outpace the enemy. It also seeks to deny the enemy any sanctuary on the battlefield, as well as in the local theater or in his strategic depth.

The OPFOR will use all fire support means (primarily aviation, SSMs, and long-range rocket strikes) to attack targets in the homeland of an opponent in the region. In a strategic campaign, the OPFOR may use various fire support assets in access-limitation operations and attack of the enemyâ s lines of communications and rear. It will attack the most vulnerable parts of the enemyâ s combat system. This includes strikes on the infrastructure and even civilian targets. Such OPFOR attacks will be coordinated with perception management efforts to convey the view that these terror tactics are no worse than enemy bombing campaigns.

The OPFOR will also leverage the effects of its available fire support means by integrating them into an integrated fires command (IFC) in organizations down to division or division tactical group (DTG) level. The IFC (described in detail later in this chapter) synchronizes and focuses the efforts of RISTA and fire to destroy key enemy formations or systemsâ or key components of an enemyâ s combat system. Destroying such targets can not only shift the balance of combat power in the OPFORâ s favor, but also undermine enemy morale and resolve.

## Target Damage Criteria

Target damage is the effect of fires on a given military target. It results in total, partial, or temporary loss of the targetâ s combat effectiveness. The OPFOR categories of target damage are annihilation, demolition, neutralization, and harassment. Of these categories, the first three fall under the general term destruction.

## Annihilation

Annihilation fires render targets completely combat-ineffective and incapable of reconstruction or token resistance. For a point target such as an antitank guided missile launcher, the OPFOR must expend enough munitions to ensure a 70 to 90 percent probability of kill. For area targets such as platoon strong points or artillery firing positions, the OPFOR must fire enough rounds to destroy from 50 to 60 percent of the targets within the group. These fires result in the group ceasing to exist as a viable fighting force.

## Demolition

The OPFOR uses the term demolition in reference to the destruction of buildings and engineer works (such as bridges, fortifications, or roads). Demolition requires enough munitions to make such material objects unfit for further use.

## Neutralization

Fire for neutralization inflicts enough losses on a target toâ  â

- Cause it to temporarily lose its combat effectiveness, or
- Restrict or prohibit its maneuver, or
- Disrupt its command and control (C2) capability.

To achieve neutralization, the OPFOR must deliver enough munitions to destroy 30 percent of a group of unobserved targets. The expectation is that the target is severely damaged but could again become capable of coordinated resistance after the fire is lifted. The term neutralization applies only in an artillery context.

## Harassment

The OPFOR uses a limited number of fire support systems and munitions within a prescribed time to deliver harassment fires. The goal of these fires is to put psychological pressure on enemy personnel in locations such as defensive positions, command posts (CPs), and logistics installations. Successful harassment fire inhibits maneuver, lowers morale, interrupts rest, and weakens enemy combat readiness.

Note. The OPFOR carefully calculates fire support requirements in terms of weapons and munitions needed to produce a required effect on enemy targets. If insufficient fire support or ammunition is available to achieve the necessary result, the OPFOR does not fire less and hope for the best. Rather, if necessary, it engages fewer targets, adjusting the tactical, or even operational, fire support plan.

# Indirect Fire Support Weapons

In addition to aviation means (discussed in chapter 10), OPFOR indirect fire support weapons consist of mortars, cannon systems, multiple rocket launchers (MRLs), and SSMs. These systems can be either towed or self-propelled.

- Mortars. All OPFOR infantry, motorized infantry, and mechanized infantry battalions contain constituent 120-mm mortars. Smaller mortars are also available. Guerrilla and other organizations may have them as well.
- Cannon systems. Cannon artillery includes field guns, howitzers, and hybrid systems.
- Multiple rocket launchers. The OPFOR categorizes MRLs as medium-caliber (100- up to 220-mm) and as large-caliber (220-mm and larger).
- Surface-to-surface missiles. SSMs include tactical- through strategic-level ballistic missiles and land-attack cruise missiles using warheads ranging from conventional to nuclear.

For additional information on indirect fire support weapons and available ammunition types, see

the Worldwide Equipment Guide. For information on these weapons in OPFOR organizations, see FM 7-100.4.

The majority of OPFOR artillery (152-mm and above) and large-caliber MRLs are capable of firing nuclear munitions. The majority of artillery and MRL units can fire chemical munitions. However, only select units will be issued the nuclear or chemical munitions. Nevertheless, continued improvements in conventional munitions, especially precision munitions, increase the likelihood that the OPFOR can achieve operational- or tactical-level fire superiority at the desired location and time without resorting to CBRN weapons.

## Command and Control

OPFOR tactical fire support is designed to be controlled at the lowest possible level. This ensures flexibility, survivability and the proper level of support to the tactical commander. OPFOR commanders allocate fire support assets and means to subordinates in direct correlation to their need based on the scheme of maneuver. The OPFOR does not retain assets at a higher level simply to preserve flexibility at that level. If a subordinate needs an asset to accomplish a mission, every effort is made to ensure he has it.

### Command and Support Relationships

Units that provide indirect fire support for maneuver units may have one of three command and support relationships: constituent, dedicated, or supporting:

- Commanders of indirect fire support units in a subordinate (constituent or dedicated) status report directly to the commander of the maneuver unit or IFC to which they are subordinate. Units in a dedicated status continue to receive logistics support from their parent indirect fire support headquarters.
- Commanders of indirect fire support units in a supporting status are commanded by their parent organization but receive missions from their supported headquarters for the duration of the relationship.

See chapter 2 for detailed discussion of command and support relationships.

### Integrated Fires Command

The IFC is a combination of a standing C2 structure and a task organization of constituent and dedicated fire support units. All division-level and above OPFOR organizations possess an IFC C2 structureâ ¯staffÇP, communications and intelligence architecture, and automated fire control system (AFCS). The IFC exercises C2 of all subordinate (constituent and dedicated) indirect fire support assets retained by its level of command. This includes army aviation, artillery, and SSM units. It also exercises C2 over all RISTA assets allocated to it.

Note. Based on mission requirements, the division or DTG commander may also allocate maneuver forces to the IFC commander. This is most often done when he chooses to use the IFC CP to provide C2 for a strike (see chapters 1 and 3). However, it can also be done for the execution of other missions. One possibility would be for the IFC CP to command the disruption force, the exploitation force, or any other functional force whose actions must be closely coordinated with fires delivered by the IFC.In combat, the IFC forms the framework for the C2 of indirect fires in the division or DTG. A division or DTG always has an IFC, even if it receives no additional fire support units during task-organizing. There is one IFC per division or DTG, to support the tactical battle plan. However, each IFC is capable of engaging designated operational and strategic targets, if necessary.

The division or DTG deputy commander (DC) is the IFC commander. Through his IFC commander, the division or DTG commander exercises C2 over fire support and associated RISTA assets retained in the IFC. The following procedures apply to this process:

- The division or DTG commander specifies the organization of forces for combat and the tasks for indirect fire support assets.
- The IFC commander conducts and coordinates fire support planning. He also coordinates with the division or DTG chief of reconnaissance and the reconnaissance subsection for targeting data.

The IFC commander can also control (but not command) fire support and RISTA assets allocated to the division or DTG in a supporting relationship. He can give them mission priorities, but they are still commanded by their parent organization.

Fire support assets that are allocated to a DTG and not used in the IFC are allocated, in a constituent or dedicated relationship, to subordinate brigade tactical groups (BTGs). Fire support units remaining under IFC command may provide fires for maneuver brigades or BTGs in a supporting relationship. The supporting relationship allows the IFC commander the flexibility to task fire support assets to engage key enemy targets throughout the AOR.

The number and type of fire support and RISTA units allocated to an IFC is mission-dependent. The IFC is not organized according to a table of organization and equipment, but is task-organized to accomplish the missions assigned. Figure 9-1 shows the possible components of an IFC at DTG level.

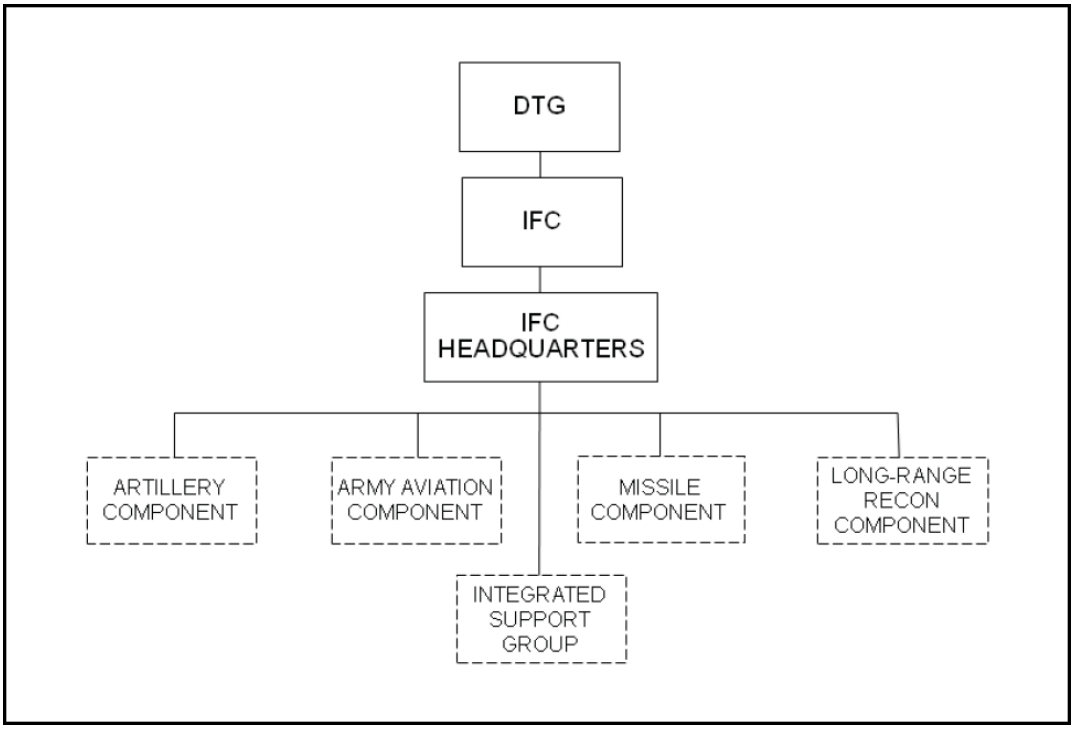


Figure 9-1. Possible IFC components in a DTG

The mission of the IFC is to execute all fire support tasks required to accomplish the division or DTG mission. It is designed toâ¯

- Exploit the combat power inherent in carefully integrated ground and air fire support actions.
- Reduce to the absolute minimum the amount of time from target acquisition to engagement.
- Permit fire support assets to mass their effects without having to operate in concentrated formations.
- Ensure the optimal fire support asset(s) are assigned any given mission.
- Ensure adherence to the commanderâ  s priorities for fire support.
- Integrate the effects of fires from units placed in support of the division or DTG.
- Act, if necessary, as the divisionâ  s or DTGâ  s alternate command structure.

## IFC Headquarters

The IFC headquarters component is composed of the IFC commander and his command section,

a RISTA and INFOWAR section, an operations section, and an integrated support section. (See figure 9-2.) The DC of the division or DTG serves as IFC commander. The RISTA and INFOWAR section provides the complete spectrum of intelligence support to the IFC as well as INFOWAR support for the headquarters component. The operations section provides the control, coordination, and communications for the headquarters component. Located within the operations section is the fire support coordination center (FSCC). The integrated support section provides control and coordination of various support functions. The IFC headquarters relies principally on direct liaison among subordinate units to ensure the necessary coordination of fire support. A divisionâ  standing IFC headquarters should also be capable of exercising C2 over additional assets allocated to augment the IFC in a DTG.

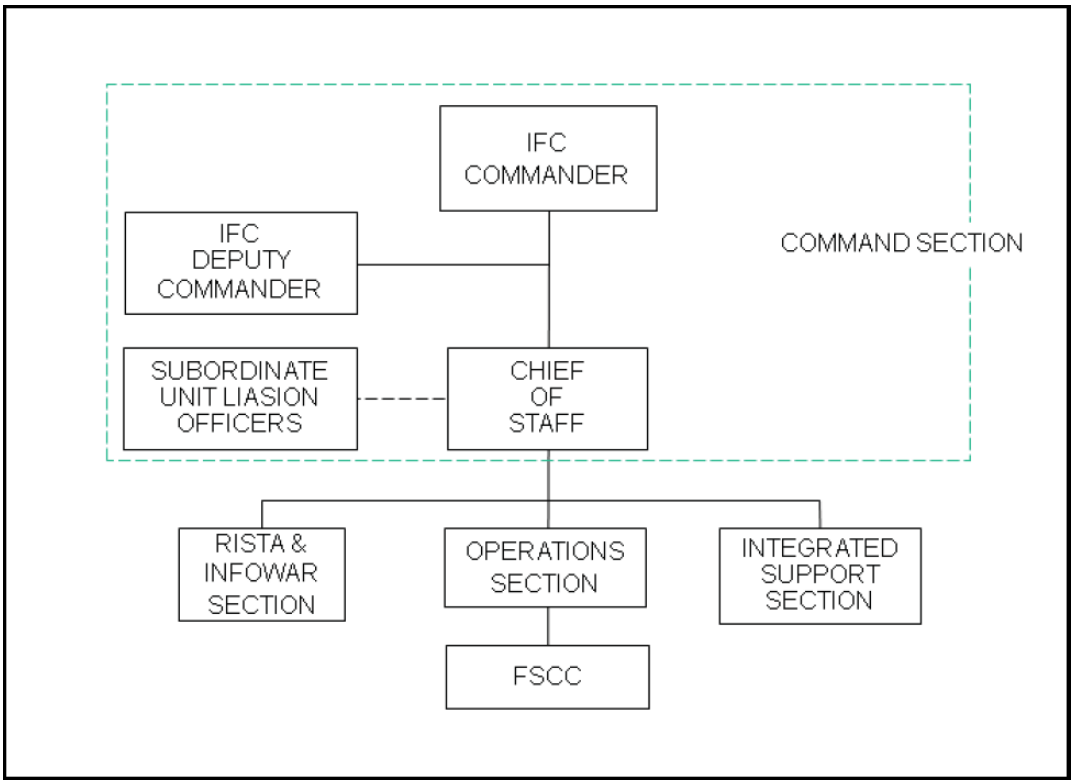


Figure 9-2. IFC headquarters

Note. A division or DTG will still retain a core IFC headquarters, even if it loses its originally subordinate fire support assets to another command during task-organizing. This facilitates C2 of any fire support assets that might be reallocated to that division or DTG during some subsequent phase of combat.

## Artillery Component

The artillery component is a task organization tailored for the conduct of artillery support during combat. In a division IFC, it consists of all assets of the divisionâ  artillery brigade that are not allocated in a constituent or dedicated relationship to subordinate maneuver brigades. In a DTG, it is organized aroundâ 

- Assets of the artillery brigade of the division that served as the basis for the DTG (except for assets suballocated for the task organization of subordinate maneuver brigades).
- Any additional artillery units that are allocated to the DTG and remain subordinate to the DTG in a constituent or dedicated relationship rather than being further suballocated to subordinates.

Such additional assets usually come to the DTG through the operational-strategic command (OSC), when the OSC decided not to retain them at its own level of command. The artillery component includes appropriate target acquisition, C2, and logistics support assets.

The number of artillery battalions assigned to an IFC varies according such factors as mission of friendly units, the enemy situation, and terrain. However, the number of artillery units also can vary based on the capabilities of the supporting AFCS. For example, an MRL brigade AFCS can have enough command and staff vehicles for the brigade commander and his chief of staff, as well as the subordinate commanders of battalions and up to 18 batteries (6 battalions). An AFCS supporting a cannon, MRL, or mortar battalion may consist of enough command and staff vehicles to support 3 to 4 batteries (each consisting of 4 to 8 systems).

## Army Aviation Component

The army aviation component is a task organization tailored for the conduct of tactical-level aviation missions. It is a flexible and balanced air combat organization capable of providing air support to the DTG commander. It includes attack aviation capability as well as requisite ground and air service support assets. The IFC commander exercises control through facilities provided by the airspace operations subsection of the DTG staff and/or the army aviation unit(s).

## Missile Component

The missile component is a task organization consisting of long-range missiles or rockets capable of delivering conventional or CBRN munitions. It is organized around an SSM or rocket battalion or brigade and includes the appropriate logistics support assets. An OSC may or may not allocate SSMs or rockets to support a DTG IFC in a constituent or dedicated relationship.

## Long-Range Reconnaissance Component

The long-range reconnaissance (LRR) component normally consists of assets from the divisionâ  s constituent LRR company. Personnel of this company are specially trained for insertion in small reconnaissance teams at distances up to 100 km from the rest of the division. An OSC may allocate additional LRR assets to the DTG, if the OSC has received such units from the administrative force structure (AFS).

The LRR component provides the OPFOR the ability to reconnoiter and attack enemy forces throughout their tactical depth. The LRR assets conduct actions to achieve tactical objectives. Such actions may have either long-range or immediate impact on the enemy. The OPFOR concept of LRR missions includes reconnaissance, direct action, and diversionary measures.

If an OSC has received special-purpose forces (SPF) units, it may further allocate some of these units to supplement the LRR assets a DTG has in its IFC. However, the scarce SPF assets normally would remain at OSC level. Even when allocated to a DTG, probably in a supporting status, the SPF would pursue tactical goals in support of operational objectives. SPF are trained for missions similar to those of the LRR company, but may be inserted to even greater distances.

## Integrated Support Group

The integrated support group (ISG) is a compilation of units performing logistics tasks that support the IFC. Other combat support and combat service support units may be grouped in this component for organizational efficiency although they may support only one of the major units of the IFC. For a DGT IFC, the ISG typically is a task-organized composite of division-level units and other units suballocated from the OSC. The ISG is discussed in detail in chapter 14.

## Chief of Integrated Fires

Within the operations section of the division or DTG staff, there is a chief of integrated fires. This officer is responsible for coordinating and advising the commander on the effective integration of C2 and RISTA means with fire support means (including precision fires) to support the overall battle plan. He controls, but does not command, the fire support units subordinate to or

supporting the division or DTG. He advises the division or DTG commander on how best to use available fire support assets.

## Chief of Fire Support Coordination

On the staff of a maneuver brigade or BTG, there is an officer responsible for planning and coordinating indirect fire support. At this level, his title is chief of fire support coordination (CFSC). The CFSC controls, but does not command, the indirect fire support units subordinate to or supporting his maneuver unit. He advises the maneuver commander on how best to use available fire support assets. The CFSC heads the fire support coordination element of the functional staff.

## Fire Support Coordination Center

An FSCC is established at each organizational level from maneuver brigade to IFC. The FSCC is the staff element responsible for the planning and coordination of fires to support the respective maneuver unit. It performs the following battle coordination functions:

- Acquire and identify high-payoff targets (HPTs).
- Recommend targets.
- Use target value analysis to identify target priorities.
- Determine fire support needs.
- Expedite fire support.
- Assess fire support effects.
- Change fire support plans.
- Coordinate the timing of fire support attacks (sometimes in support of INFOWAR objectives).
- Recommend the use of aviation.

The FSCC also disseminates information on fire support to commanders and staffs of maneuver forces and/or aviation units operating in the same AOR, in order to reduce potential conflicts. This information includes firing positions, targeted areas, and fire support plans.

## Brigade-Level Fire Support

The brigade or BTG command group consists of the commander, DC, and chief of staff, and functional staff. The primary difference is that the DC does not serve as IFC commander, since there is no IFC at this level of command. At this level, there is also no chief of integrated fires in the operations section of the staff; instead, there is a CFSC.

A brigade that does not receive augmentation has whatever fire support unit was constituent to the brigade in the AFS. The constituent fire support is directly under the C2 of the brigade commander, who is advised by his CFSC and the FSCC in the operations section of his staff.

A brigade that becomes a BTG may receive additional fire support units (artillery, SSMs, or army aviation) in a constituent or dedicated relationship. Each of these additional units, along with whatever fire support unit was originally constituent to the base brigade in the AFS, is under the direct C2 of the BTG commander, advised by his CFSC and FSCC. However, it is possible that the BTGâ  higher command may have reallocated some or all of the base brigadeâ  original fire support assets to some other subordinate during the task-organizing of its fighting force structure.

Any brigade or BTG may also receive one or more additional fire support units allocated to it in a supporting relationship. In this case, the supporting fire support unit(s) remain under the command of their parent headquarters (be that a fire support headquarters in some higher commandâ  IFC or some higher headquarters remaining in its original status from the AFS). The supporting unit may or may not be located in the supported brigadeâ  or BTGâ  AOR. However, the supported brigade or BTG commander can give mission priorities to these

supporting fire support units and (if the supporting units are in his AOR) position these assets to carry out such missions.

## Fire Support Below Brigade Level

A brigade or BTG can allocate some of its constituent or dedicated indirect fire support assets to a maneuver battalion in a constituent or dedicated relationshipâ  in which case the battalion would become a detachment. More commonly, however, the brigade or BTG could employ some of its constituent or dedicated fire support units (or parts of units) to provide fire support for a particular battalion or detachment in a supporting relationship.

A maneuver battalion staff does not include an FSCC or a functional staff with a fire support coordination element. Nevertheless, there is still a chief of fire support coordination (CFSC) responsible for that function. The maneuver battalionâ  assistant operations officer functions as the CFSC in those units (such as a tank battalion) that do not have a mortar battery but still require fire support. Otherwise, the commander of the mortar battery also serves as the CFSC. The mortar battery headquarters contains a fire control section to coordinate battalion fires. (See FM 7-100.4.)

## Fire Requests

Requests for supporting fires may originate at any organizational level. They are initiated when one or more of the following conditions exist:

- Constituent or dedicated fire support means at that level are fully engaged.
- The target is beyond the range of constituent or dedicated fire support means.
- The constituent or dedicated fire support means have suffered combat loss.

There are two methods of requesting supporting fires. (The following explanation illustrates how these methods work when a brigade or BTG requests fires from division or DTG level.) The preferred method is for the request to be forwarded from the brigade or BTG commander to the integrated fires subsection in the division or DTG headquarters. An alternate method is for the brigade or BTG commander to request supporting fires from the division or DTG commander. The division or DTG commander either approves or denies the request. If the request is approved, the division or DTG commander tasks the IFC to provide the requested support.

## Naval Fire Support

Naval fire support, when available, is not allocated to a DTG as part of its IFC, since a DTG is not a joint command. Rather, naval assets may be allocated to an IFC at OSC or theater level. Naval fire support (which includes shipborne gunfire and sea-launched cruise missiles) can give the OSC commander another means of long-range indirect fires. A division or DTG (or a separate brigade or BTG) can request naval fire support through OSC channels.

A theater or OSC that receives naval fire support assets in a constituent or dedicated relationship may further allocate such naval assets to a division or DTG in a supporting relationship. However, such naval assets remain under the command of the theater- or OSC-level IFC.

Another option is for naval fire support assets to remain under the command of the Navy but to provide support for ground operations. During the course of such a supporting relationship, if enemy actions threaten naval operations, the target attack priorities of the ship may cause it to suspend or cancel land fire missions. Once the threats have subsided, the fire support assets resume their support of the ground maneuver force.

A naval fire support liaison team augments the operations section of the division- or DTG-level IFC staff when naval fire support is required to support a ground maneuver force, even in a supporting relationship. The liaison team provides special staff representation and advice on naval fire support to the IFC commander. Additionally, it coordinates requests for naval fire

support and operates the naval fire support nets in the IFC FSCC.

Members of the naval fire support liaison team are specially trained in the conduct of naval gunfire. However, the observer procedures are simplified and standardized so that any observer from the supported ground force unit can effectively adjust the fires of a supporting naval vessel with a minimum of additional training.

## Control of Fire Support Observers

The FSCC has three control options available to it when monitoring observersâ requests for fire. (See figure 9-3 on page 9-14 for various methods of reporting targets for attack, starting from the point of detection by a human observer or other sensor.) After considering the tactical mission, the degree of training of the observers, and the availability of fire support assets, the FSCC determines which option is best suited for the mission.

## Decentralized Option

The observer may call for fire from any fire support assets available to support the mission. This is the most responsive request, but allows the FSCC the least amount of control. Since the observer is allowed to determine which asset should engage each target, this option generally requires a highly trained observer.

## Predesignated Option

The observer is assigned a particular fire asset from which he may request support, and he operates on that fire unitâ radio net. If the observer thinks that the target requires a different fire support asset, he must request permission from the FSCC to change assets. Permission is granted on a case-by-case basis. Under this option, fire support is highly responsive, if the FSCC determines that the asset is suitable to the type of target.

## Centralized Option

The observer must contact the FSCC for each call for fire. Then the FSCC refers the observer, or relays his request, to an appropriate fire support asset. This option is the least responsive for the observer but offers the highest degree of control to the FSCC. This option is generally used when a maneuver commander acts as an observer.

## Tailoring

Since the level of training and the tactical situation vary for each observer, the FSCC may assign the appropriate option to each supported unit. For exampleâ

- An SPF or reconnaissance unit may be predesignated.
- A maneuver unit may be centralized.
- An observer from an indirect fire support unit may be decentralized.

# Fire Support Planning

Fire support planning is the determination of the content, manner, and sequence of delivery of fire on the enemy in a battle or operation. The fire support planning process includesâ

- Target acquisition.
- Requirements for allocation of weapons and units (task-organizing of forces for combat).
- Assignment of tactical fire support missions to IFCs, units, and weapons.
- The manner and procedure of delivery of fire during the performance of missions.
- Determination of ammunition requirements by missions.
- Organization of coordination and C2.

- Preparation of appropriately detailed fire support plans at various levels.

In the OPFORâ  â  top-downâ  approach to the planning and allocation of indirect fire support, fire support planning occurs at the highest level possible. The IFC commander at the OSC and division or DTG levels or the CFSC at brigade or BTG level plans and coordinates indirect fire support, always under the direction of the maneuver commander. The highest level of participating units coordinates and approves the fire support plan, with input from subordinate units. OSC and division or DTG headquarters perform general fire support planning. Detailed planning occurs in maneuver brigades or BTGs, IFCs, and indirect fire support units. The fires of all indirect fire support units within a brigade or BTG are incorporated into the brigade or BTG fire support plan. In turn, brigade or BTG fire support plans become part of division or DTG fire support plans. Division or DTG fire support plans become part of OSC fire support plans.

In its simplest form, fire support planning is the process of determining the best way to engage all of the enemyâ  units with fires. It must ensure that the required level of damage is inflicted in a manner consistent with the commanderâ  concept of the battle. Above all else, this means that the fire support plan must match his concept for the sequence in which the battle will develop. The focus of fire support planning is on establishing and maintaining fire superiority over the enemy. Therefore, timing is critical.

## Estimate of Situation

The planning process begins with an estimate of the situation. This estimate includes consideration of the following:

- The scheme of maneuver of supported forces.
- The enemy force to receive fire.
- The locations and types of individual targets within the designated enemy force.
- The required or desired level of target damage.
- Fire support assets available, both delivery systems and ordnance.

The commander of an indirect fire support unit at any level coordinates the fires under his control. He determines new requirements and missions and, with the IFC commander or brigade CFSC, makes suggestions to the maneuver commander about adjustments in tactical organization as the situation develops.

## IFC Planning

The division or DTG commander, his IFC commander, and other staff members establish the basis for fire support planning during the commanderâ  reconnaissance of the area of anticipated action. During this reconnaissance, the commander refines the organization of forces for combat and the means of coordination. The division or DTG commander gives the IFC commander the information base to determine the following:

- Targets for indirect fire weapons to engage and fire upon.
- Priority of each target.
- Sequence in which to attack targets.
- Time to attack each target.

An IFC commander and members of his staff conduct their planning in coordination with the rest of the division or DTG staff, concurrently with developing the battle plan. Planning considerations include target type, dimensions, degree of protection, mobility, and range to the target.

## Fire Support Coordination Measures

Fires pose a potential hazard to friendly maneuver forces and aircraft activities. (See chapter 10 for more information on air and artillery coordination measures.) To reduce potential conflicts between indirect fires and maneuver forces or aircraft, information pertaining to firing positions,

targeted areas, and fire support plans is distributed to commanders and their staffs. The fire support plan includes a map with graphics outlining the following control lines:

- Coordinated fire line. A line beyond which indirect fire systems can fire at any time within the AOR of the establishing headquarters without additional coordination.
- Final coordination line. A line established by the appropriate maneuver commander to ensure coordination of fire of converging friendly forces. It can be used to prohibit fires or the effects of fires across the line without coordination with the affected force. For example, this line may be used during linkup operations between an airborne or heliborne insertion and converging ground forces.
- Joint fire line. A line established by the appropriate OSC-level and above commander to ensure coordination of fire not under his control but which may affect his operations. The joint fire line is used to coordinate fires of air, ground, or sea weapons systems using various types of ammunition against surface targets.
- Safety line. A line that denotes the fragmentation footprint of indirect fire munitions or of bombs or rockets released from aircraft. This indicates the minimum distance between the impact area and the nearest friendly troops.

## Assigning Fire Missions

When assigning missions, indirect fire support commanders and planners consider several factors, depending on the situation. These factors includeâ¯

- Type of target (for example, equipment or personnel, deliberate or hasty defensive positions, hard- or soft-skinned vehicles, point or area targets).
- Deployment of target (dug-in or in the open).
- Whether the target is stationary or moving.
- Whether the target is under direct observation during an artillery attack.
- Range to the target.
- Type, caliber, and number of weapons engaging the target.
- Types of ammunition available.
- Time available to prepare for firing.

## Targeting

Targeting (selecting and prioritizing targets) requires constant interaction between maneuver, reconnaissance, fire support, and INFOWAR at all levels. Target value analysis is an analytical tool that is used in the targeting process by which the supported maneuver commanderâ¯

- Provides focus for his target acquisition effort.
- Identifies priorities for the engagement of enemy targets that will facilitate the success of his mission.
- Identifies the target damage criteria.
- Permits planning for identified contingencies based on enemy options available when the enemy operation fails.

## Target Analysis

Target analysis is the examination of potential targets to determine military importance, priority for attack, and weapons required to obtain a desired level of damage or casualties. Targets are not attacked indiscriminately but are part of an overall scheme or plan to destroy an enemy complex. A target complex is a series of interrelated or dependent target elements that together serve a common function. The target could also be part of the infrastructure or a particular part of the enemyâ¯ combat system.

The OPFOR considers the following five factors for selection of targets in a particular target complex:

- Criticality.

- Vulnerability.
- Accessibility.
- Recoverability.
- Effect on the local population.

The FSCC uses diagrams, maps, photographs, and other intelligence to analyze a target complex and select targets for attack that offer maximum timeliness and effect. The analysis enables the IFC or maneuver commander to select the appropriate system or mechanism to conduct an attack. Some of the simplest operations can either cause or create favorable conditions for great damage to the enemy.

## High-Value and High-Payoff Targets

High-value targets (HVTs) are assets the enemy commander requires for the successful completion of his mission. High-payoff targets (HPTs) are whose loss to the enemy will significantly contribute to the success of the OPFOR mission. While target value is usually the greatest factor contributing to the target payoff, other considerations include the following:

- Sequence or order of occurrence.
- Ability to locate and identify the target.
- Degree of accuracy and identification available from the acquisition system.
- Ability to engage and defeat the target in accordance with the established target damage criteria.
- Resource requirements necessary to accomplish all of the above.

The loss of HVTs or HPTs would be expected to seriously degrade the effectiveness of the enemyâ combat system.

Based on a battlefield analysis, the maneuver commander, with advice from his IFC commander or CFSC, selects HVTs and HPTs and establishes a prioritized list of them. The list identifies the targets for a specific point in the battle in the order of their priority for acquisition and attack.

## Time-Sensitive Targets

Time-sensitive targets are those targets requiring an immediate response. The reason for the urgency is that they either pose (or will soon pose) a clear and present danger to the OPFOR or are highly lucrative, fleeting targets of opportunity.

## Target Attack Methodology

The vast array of targets anticipated on the battlefield can generate competing demands for fire support. These demands could exceed the capability of fire support assets to adequately respond to all requirements. Critical to the success of OPFOR combat actions is the ability to plan, detect, deliver, and assess fire (in accordance with the commanderâ target damage criteria) against targets throughout the AOR. Therefore, the OPFOR uses the target attack methodology of plan, detect, deliver, and assess.

## Plan

The plan phase provides the focus and priorities for the reconnaissance collection management and fire planning process. It employs an estimate of enemy intent, capabilities, and vulnerabilities in conjunction with an understanding of the OPFOR mission and concept of battle. During the plan phase, the maneuver commander, with advice from his IFC commander or CFSC, makes a determination ofâ

- What HVTs and HPTs to look for.
- When and where they are likely to appear on the battlefield.
- Who (reconnaissance or target acquisition assets) can locate them.

- How the targets should be attacked.

## Detect

During the detect phase, the reconnaissance plan is executed. As specified targets are located, the appropriate command and observation post (COP), fire control post, or delivery system is notified to initiate the attack of the target.

Figure 9-3 illustrates the varying methods of reporting targets for attack from the point of detection by a sensor through delivery. The figure displays the methods along a range from the least to the most responsive.

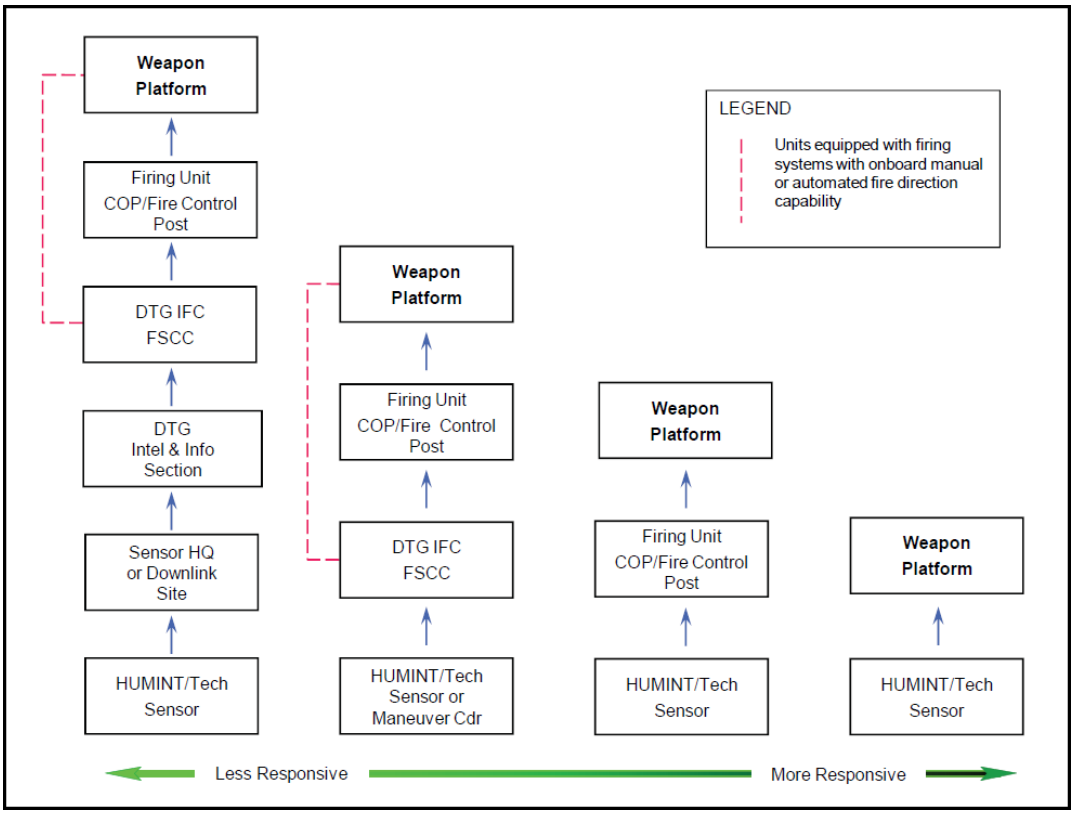


Figure 9-3. Target report flow

## Deliver

The deliver phase is rapidly executed by having designated attack systems respond to the maneuver commanderâ guidance when HVTs or HPTs are observed. Timely, accurate delivery is the culmination of synchronized fire support.

## Assess

Following the attack of the target, RISTA assets are cued to determine if the target has been defeated in accordance with the established target damage criteria. If it is determined that the target damage criteria are not achieved, delivery assets re-engage the target until the desired target damage has been achieved.

## Target Acquisition and Reconnaissance

Indirect fire target acquisition is the process of detecting, identifying, and locating elements of the enemy to be engaged. This includes acquiring enemy mortar, cannon, and rocket units with sufficient accuracy, reliability, and responsiveness for counterfire and counterbattery fire to be directed against the enemy unit. Advances in RISTA and fire control systems provide the OPFOR a capability to rapidly disseminate information on suspected enemy targets within one minute or

less. This includes the time from acquisition to firing data computation and the initial transmission of data to a firing battery.

## RISTA Assets

The following are some examples of RISTA assets that can provide target information for indirect fires:

- Weapon-locating radars. Detect targets following a ballistic path.
- Sound ranging. Determine the precise location of hostile artillery by using data from the sound of its guns, mortars, or rockets firing. A series of microphones capture the sound. A computer factors the intersection of the bearings and provides the location of the firing unit.
- Battlefield surveillance radars. Detect enemy activity or observe point targets to detect movements. They can detect and recognize moving targets including personnel, vehicles, watercraft, and low-flying aircraft and determine accurate locations (azimuth and range) of such targets. These radars can confirm targets sensed by other types of sensors or be used to cue other sensors and weapons. They can also determine the effectiveness of the attack on a target.
- Unmanned aerial vehicles (UAVs). Provide increased range and offer increased accuracy and responsiveness depending on the sensor suite chosen. The OPFOR has UAVs from strategic to company and specialized team level.
- Visual observation. Human intelligence (HUMINT) may consist of observation posts (OPs), artillery reconnaissance patrols, SPF, or tip-offs from maneuver elements or others. HUMINT may also include information from sympathetic or affiliated civilians or guerrillas.

For information on the systems see the Worldwide Equipment Guide. Figure 9-3 on page 9-14 describes various methods of reporting targets for attack, starting from the point of detection by a human observer or other sensor.

## Observation Posts

The OPFOR uses an extensive system of OPs to provide fire support to the maneuver forces. These OPs are mobile in order to accompany rapidly moving forces. They may be in wheeled or tracked vehicles, or in the air. The configuration depends upon the level of command and the type of units.

After establishing a functional OP, scout observers can construct a deception OP to confuse the enemy about the actual position of the OP. Figure 9-4 on page 9-16 shows an example of the deployment of some of the most common types of OPs discussed below. Other vehicles serve as fire control posts and mobile reconnaissance posts (MRPs). Artillery commanders can also send out artillery reconnaissance patrols.

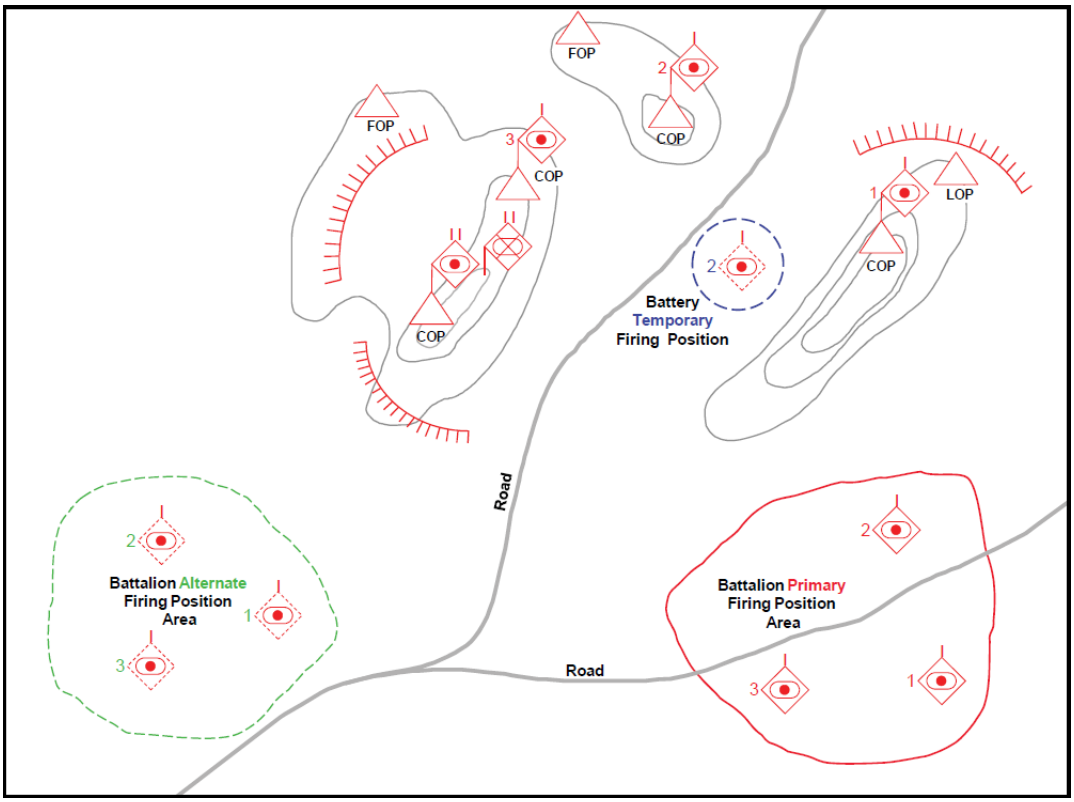


Figure 9-4. Observation posts in the battle formation of an artillery battalion (example)

## Command and Observation Post

In indirect fire support battalions and batteries, the COP serves as both an OP and CP. From it, the fire support commanderâ¯

- Controls the fire and maneuver of his subordinates.
- Conducts reconnaissance of the enemy and terrain in his zone or sector of fire.
- Observes the actions of friendly combined arms units and maintains coordination with them.

Since the artillery battalion is the basic firing unit, its COP is the place where decisions are made and from which orders stem.

The battalion COP normally contains the battalion commander, chief of reconnaissance, and chief of communications. The battery COP normally includes the battery commander and the control platoon leader (who is responsible for reconnaissance and signal functions). In addition to these officers, COPs at both battalion and battery level include fire direction, communications, and reconnaissance personnel. In either case, these personnel can operate the COP either on the ground or mounted in an artillery command and reconnaissance vehicle.

Note. Depending on the type of combat action, the chief of communications may be part of the battalion fire control post, rather than the COP.

In most cases, the commander of a constituent or dedicated artillery unit colocates his COP with the main or forward CP of the maneuver unit commander to which the artillery unit is constituent or dedicated, or at least locates it near that CP. From that position, both the maneuver and artillery commanders should be able to observe the zone of responsibility or sector of fire. When the artillery unit is neither constituent nor dedicated, but merely supporting and remains directly subordinate to the senior maneuver or IFC commander, its COP is positioned near that commanderâ CP.

Other OPs and artillery reconnaissance patrols send reconnaissance data to the COP. The artillery commander determines which targets are to be engaged, and the COP relays target data to the firing position.

## Forward Observation Post

Artillery commanders can establish one or more forward observation posts (FOPs) to supplement the COP. The purpose of the FOP is to conduct reconnaissance of the enemy and observe the terrain directly in front of the forward maneuver units. It can locate and adjust fires against targets that the COP is not in a position to observe. It also assures continuous close fire support for the maneuver forces when the COP is displacing. An FOP may be with the supported unit commander or with one of the advance maneuver elements. This enables it to maintain closer communication and coordination with supported maneuver forces.

At the battalion and battery levels, the FOPs often contain the battalion chief of reconnaissance (or the batteryâ  s control platoon leader), a scout, and a radio operator. The FOP can deploy on foot or mounted in an MRP vehicle (see below).

In either offense or defense, an artillery reconnaissance patrol can also set up an FOP behind enemy lines to adjust artillery fire and to report on enemy organization and deployment. Its primary mission is to locate enemy artillery units.

## Lateral Observation Post

An artillery commander may establish a lateral observation post (LOP) to cover areas not observable from the COP or FOPs. The LOP is usually on the flank of the supported unit and should have a good view of the artillery unitâ  s zone of responsibility. An LOP can work with a COP or FOP to conduct bilateral observation of a target area for improved accuracy. At battalion level and higher artillery echelons, the LOP accurately locates targets, reference and registration points, and can adjust fire. The parent artillery unit or the divisionâ  s IFC may send reconnaissance and communications personnel to form the LOP. The LOP can deploy on foot or in a vehicle, such as an MRP. An LOP is generally smaller that a COP, manned by two to three reconnaissance specialists who communicate back to the COP.

## Mobile Reconnaissance Post

An MRP is an armored, tracked vehicle with a battlefield surveillance radar and other observation and rangefinding equipment. This vehicle is designed to operate nearâ  or even acrossâ  the battle line. It has a data transmission system for passing target information and fire missions directly to associated COPs or fire control posts. There is typically one of these vehicles per artillery battalion, one in the artillery brigadeâ  s headquarters, and one in its target acquisition battery. However, the brigade typically uses an MRP to support its own COP. At battalion level, an MRP may function as an FOP or LOP. However, it can also remain near the COP in a forward position or within the artillery battalion firing position area. The artillery brigade or battalion commander designates the position and the sector of observation for the MRP.

In the offense, the MRP may advance closely behind or within lead mechanized infantry or tank units. It can conduct reconnaissance and fire missions on the move or during short halts. During movement, the MRP can move as part of an artillery reconnaissance patrol. This single vehicle can perform reconnaissance and adjust artillery fire on targets while located with these units. In the defense, MRPs may form part of the combat security outposts in the disruption zone.

## Aerial Observation Post

The artillery commander may use an aerial observation post (AOP) to supplement FOPs and LOPs. The AOP is generally established to cover rapidly moving forces in areas larger than can be covered by a ground OP. The AOP is especially effective during heliborne assaults.

# Methods of Fire

The success of OPFOR combat actions often depends on the ability to deliver timely and effective fire against key parts of the enemyâ  s combat system. Targets could be the enemyâ  s combat and combat support forces (units and weapon systems), as well as the C2, RISTA, and logistics components his combat system. The focus is a systems warfare approach to combat, where the objective of the combat action is to deny the enemyâ  s combat system its synergistic capabilities. Thus, the OPFOR is able to compel enemy forces into multiple and rapid tactical transitions and to create opportunity by keeping them off balance, breaking their momentum, and slowing movement. The OPFOR uses various types of fire against the enemy. The methods of fire may have different purposes in the offense and defense.

## Reconnaissance Fire

Reconnaissance fire is the integration of RISTA, fire control, and weapon systems into a closed-loop, automated fire support system that detects, identifies, and destroys critical targets in minutes. This integration capability normally exists only in an IFC. One reason for this requirement for accelerated engagement is that HVTs and HPTs may expose themselves for only fleeting periods. Reconnaissance fire is primarily designed to attack and destroy key enemy capabilities and/or set the conditions for a strike (see chapters 1 and 3).

Reconnaissance fire enables the OPFOR to deliver rotary-wing air, SSM, cruise missile, and artillery fires (including precision munitions) on enemy targets within a very short time after acquisition. The OPFOR can use reconnaissance fire in offensive and defensive phases of combat. Assets designated for reconnaissance fire are under control of the IFC commander, and control remains centralized for planning, analysis, and evaluation of reconnaissance data, and for execution of the reconnaissance fire mission. This type of arrangement allows the assets to execute other missions or taskings until the desired HVTs or HPTs are detected. The IFC commander may establish a window of time for assets tasked to support reconnaissance fire (based on an intelligence assessment of when the enemy targets should be in designated kill zones).

The division or DTG commander selects and establishes the target priority and target damage criteria of the combat system component or components to be attacked in order to force a favorable condition. The IFC staff and fire support component commanders develop the fire support plan designed to conduct reconnaissance fire necessary to create the favorable condition. The IFC commander then briefs the fire support plan to the division or DTG commander to ensure compliance with the overall battle plan. The IFC executes reconnaissance fire in accordance with the approved fire support plan.

## Close Support Fire

Close support fire is fire used to support maneuver forces and attack targets of immediate concern to units such as battalions and brigades. The requirement is to provide a quick response time and accurate fires capable of either neutralizing or defeating all types of targets.

## Interdiction Fire

Interdiction fire is fire placed on an area or point to prevent the enemy from using the area or point. It is designed to attack targets in depth (such as logistics sites or assembly areas) and to prevent enemy follow-on or reserve forces from reinforcing or influencing a battle or situation. Technological improvements such as course-corrected rockets, projectiles, and fuzes facilitate long-range precision targeting.

The OPFOR employs long-range strike assets (operating from dispersed areas) to continuously engage targeted forces and systems. Operational and tactical RISTA systems direct them.

## Counterfire

Counterfire is fire intended to destroy or neutralize enemy weapons. Includes counterbattery and countermortar fire. Counterbattery fire is a type of counterfire that accomplishes the annihilation or neutralization of enemy artillery batteries. It enables ground forces the ability to maneuver on the battlefield with little to no suppression by enemy artillery. However, combat with enemy artillery requires more than counterbattery fire. It requires the destruction of the enemy C2 centers as well as his artillery support structure.

### Final Protective Fire

Final protective fire is an immediately available preplanned barrier of direct fire designed to impede enemy movement across defensive lines or areas. When the enemy initiates his final assault into a defensive position, the defending unit initiates final protective fire with both direct and indirect fire weapons.

### Reconnaissance by Fire

Reconnaissance by fire is a type of reconnaissance in which fire is placed on a suspected enemy position to cause the enemy to disclose a presence by movement or return fire. (See chapter 8 for more detail. This is not to be confused with reconnaissance fire.)

## Fire Support of Maneuver Operations

The fire support of maneuver operations is characterized by the use of all available fire support to carry out the commanderâ  s plan. The OPFOR believes that fire support must be flexible to meet all contingencies during combat. The OPFOR masses fires against an enemy objective with available fire support assets, with the goal of achieving the commanderâ  s specified target damage criteria in the shortest time possible.

### Indirect Fire Support to a Strike

Indirect fire support to a strike involves the employment of a wide variety of ammunition types (such as standard, course-corrected, advanced, and precision munitions) to destroy an enemy formation after typically setting the conditions for its destruction through reconnaissance fire. IFC indirect fire support units are assigned interdiction fire missions to support the maneuver component throughout the strike. Constituent and dedicated indirect fire support units (allocated to the maneuver component) provide close support fire throughout the battle. Thus, indirect fire support to a strike incorporates other methods of fire. The autonomous weapon attack lends itself to supporting a strike. (See chapters 1 and 3 and FM 7-100.1 for more information about a strike.)

### Offense

Fire support considerations for the offense apply to all types of offensive action discussed in chapter 3. The OPFOR plans and executes fires to support the attack and complete the destruction of the enemy. The use of selected lines or zones controlsâ  

- The shifting of fires.
- Displacement of fire support units.
- Changes in command and support relationships between fire support units and maneuver units.

In the offense, fires are planned toâ  

- Suppress enemy troop activity and weapon systems.
- Deny the enemy information about friendly forces.
- Prevent the enemy from restoring fire support, C2, and RISTA systems neutralized during previous fire support missions.

- Deny the enemy the ability to use reserve forces to conduct a counterattack.
- If necessary, create favorable conditions for the conduct of a strike.
- Support the exploitation force.

## Defense

Fire support considerations for the defense apply to all types of defensive action discussed in chapter 4. Key is the application of fire support as early as possible throughout the AOR in support of the defensive battle plan. Emphasis is placed on having RISTA assets locate enemy formations and attack positions, with the goal of determining the direction and composition of the enemy main attack. Carefully analyzing the terrain over which the enemy will advance and canalizing his movement into kill zones can create conditions for fires in the defense.

In the defense, fires are planned toâ¯

- Deny the enemy information about friendly forces.
- Develop the situation early by forcing the enemy to deploy early and thus reveal the location of his main effort.
- Maximize the effect of obstacles as combat multipliers.
- Create favorable conditions for the conduct of a strike and/or counterattacks.

Close support fire is directed against advancing enemy maneuver units. Close support fire includes fires within friendly defensive positions that are initiated after the enemy has successfully penetrated them. Indirect fires are used against enemy forces that have become wedged against defensive positions. The indirect fires may be massed or concentrated (point). The intent is to annihilate enemy forces in kill zones, thus preventing continuation of enemy offensive operations. Counterbattery fires also will be used to neutralize enemy artillery supporting the attack.

Final protective fire is planned along the most likely avenue of approach into the defensive position(s). Because the likely direction of attack can change as the enemy situation develops, the final protective fire section of the battle plan is reviewed and updated as required.

# Tactical Deployment

Two factors govern the deployment of indirect fire support units: continuity and dispersion. The need for continuity of fire support leads to indirect fire support units being deployed in positions to support the maneuver force throughout the battlefield. Unplanned movements to alternate firing positions deny the maneuver force the amount of fire support it requires. Therefore, the OPFOR adheres to the principle of flexibility of employment in order to ensure the delivery of highly accurate and effective fires. OPFOR units disperse batteries and battalions so that the enemy cannot destroy them with a single fire strike. Counterfire continues to be the greatest threat facing indirect fire units.

## Battalion Firing Position Areas

According to their purpose, firing position areas may be primary, alternate, or temporary areas. These have applications in both offense and defense. Figure 9-5 shows an example of an artillery battalion disposition with all these types of firing position areas and the relationships of the batteries within the battalion disposition.

## Primary

The primary firing position area is designated for carrying out the primary fire missions in all types of battle. Its distance from the battle line of friendly units depends onâ¯

- The battalionâ¯ s place in the supported unitâ¯ s formation.
- The range of artillery systems.

- The nature of the terrain.
- Other conditions.

Within the battalion firing position area, each battery has a primary firing position and possibly one or two alternate positions.

## Alternate

An alternate firing position area is usually designated in a defensive situation for battalion or battery maneuver and to carry out fire missions during an intentional or forced abandonment of the primary firing position area. A battalion usually has one or two alternate firing position areas to the flanks of the primary area or in the depth of the defense. An alternate area can be several kilometers from the original location.

## Temporary

A temporary firing position area can be designated for carrying out individual fire missions. It could be forward of the battle zone, for support of maneuver units defending in the disruption zone or for firing on distant targets. It could also be for carrying out missions as roving units. Other missions could include supporting the commitment of an exploitation force or commitment of a reserve to a spoiling attack or counterattack.

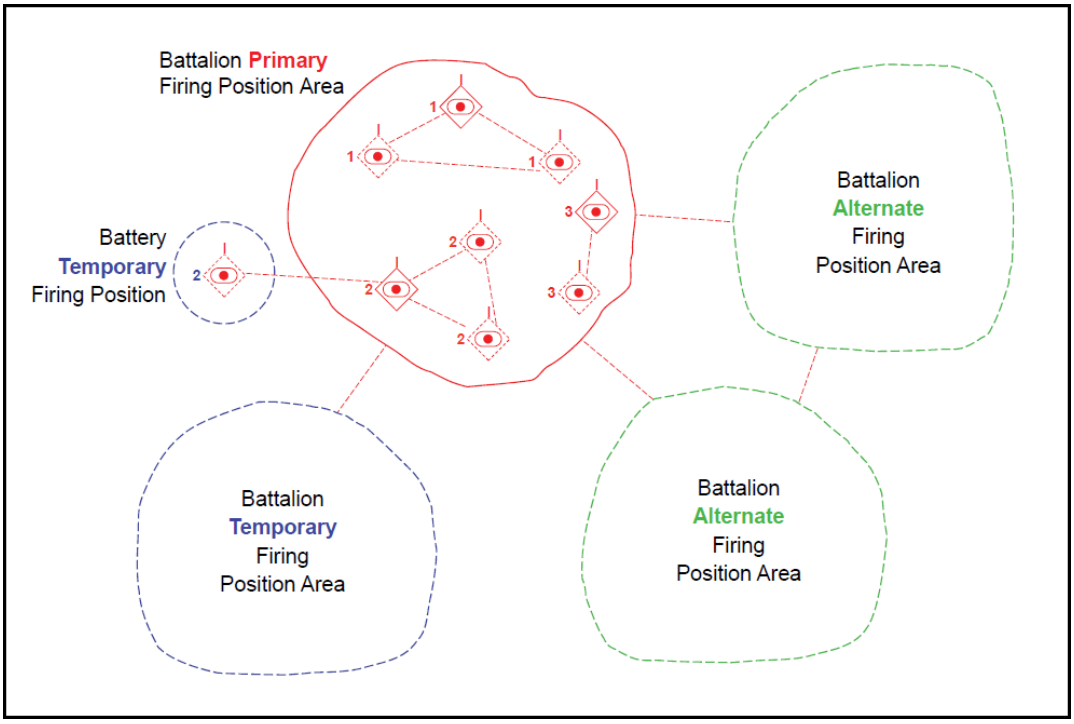


Figure 9-5. Artillery battalion and battery disposition (example)

## Battery Firing Positions

As with battalion firing position areas, battery firing positions may be primary, alternate, or temporary. In the offense, an artillery battery can use any or all of those, and possibly create deception firing positions. The defense can require primary, alternate, temporary, and deception positions. The functions of primary and alternate firing positions are much the same as for battalion firing position areas.

Cannon, mortar, and MRL firing positions are similar. While SSMs may be fired from both fixed and mobile launchers, the OPFOR prefers to fire SSMs from mobile launchers.

## Temporary

A temporary firing position can allow a battery to accomplish special, short-term, or emergency missions. In the defense, a battery can use a temporary firing position near the battle line or forward of the battle zone to support maneuver units defending in the disruption zone or to fire on a distant target. A temporary position can also be for use by a roving battery or platoon. Although temporary, these firing positions can be prepared and camouflaged.

## Deception

A battery (or battalion) may prepare deception firing positions and COP sites on its own or as part of the senior commanderâ  ds deception plan. Their purpose is to mislead the enemy as to the actual deployment of artillery units. Their preparation and camouflage must not differ sharply from that of actual positions and sites. A roving unit may periodically deliver fire from the deception firing position.

## Battery Deployment Tactics, Techniques, and Procedures

The OPFOR employs indirect fire support tactical concepts that include a variety of battery tactics, techniques, and procedures (TTP) for effectiveness and survivability. The plans for the employment of the battery are thorough and coverâ  

- Mission.
- Location of firing positions.
- Method of fire.
- Number of rounds to be fired from each position.
- Movement schedule of the battery.
- Duration of the battery mission.

The TTP are applicable to all indirect fire units. These techniques also provide the battery commander with more flexibility to conduct multiple fire missions simultaneously, since the battery can organize into more than one distinct firing unit. The techniques includeâ  

- Fire from varied formations.
- Fire from dispersed locations.
- Fire from fixed locations.
- Fire and decoy.
- Shoot and move.
- Autonomous weapon attack.

## Fire from Varied Formations

For increased survivability, indirect fire support units use formations that increase and/or vary the interval between weapons in a firing position and disperse the weapons in depth with the aid of computers. Weapons may be in a wave formation, a forward or reverse wedge, or a semicircle.

## Fire from Dispersed Locations

The OPFOR employs indirect fire support weapons with a variety of dispersed battery techniques applicable to mortar, cannon, and MRL units. Two effective techniques are the split-battery (two-platoon) and dispersed-platoon formations.

## Split Battery

Split battery is a tactic designed to increase the survivability of OPFOR artillery against enemy counterfire and counterbattery fire. The battery is split into several fire units (usually two platoons), which may deploy dispersed over an extended area. As a countermeasure to precision munitions and submunitions, the increased dispersion can keep one platoon out of the seeker footprint of munitions employed against the other platoon. This can force the enemy to either

employ more munitions over a larger target area or increase the number of targets to be serviced. In most cases, the battery COP can control the fires of both platoons. When necessary, however, the battery fire control post could control the fires of one of the platoons.

## Dispersed Platoon

Dispersed platoon is another tactic designed to increase the survivability of OPFOR indirect fire support weapons against enemy counterfire and counterbattery fire. This also facilitates the employment of single firing systems or pairs in multiple small areas that would not accommodate larger groups of firing systems.

The dispersed platoon is clearly the most survivable technique against enemy counterfire. The tactic requires highly trained personnel capable of executing a very complex, decentralized type of operation. The tactic also works best with firing systems incorporating onboard position location (such as GPS), fire direction, and survey systems.

## Fire from Fixed Locations

The fire-from-fixed-locations technique is generally employed where there is limited movement in areas such as mountains, jungles, or urban areas. The firing battery occupies dispersed pre-surveyed positions and may use hide sites as measures of both survivability and force preservation for the conduct of future battles and operations.

## Fire and Decoy

The OPFOR employs fire-and-decoy techniques to increase survivability as well as to deceive the enemy of the actual firing unit location. The techniques include roving gun, roving units, deception battery, and false battery.

## Roving Gun

Roving gun is a technique designed as a countermeasure against an enemy that has a sophisticated target acquisition capability. The goal is for the enemy to detect and engage this target, thinking that it is an entire unit, expending munitions that would otherwise have been used on an actual target. Enemy units that are particularly susceptible to this technique are those capable of accurately detecting units as soon as they begin firing and then attacking the target within a matter of minutes.

## Roving Unit

Roving unit is another technique designed as a countermeasure against an enemy possessing a sophisticated target acquisition capability. It is similar to the roving-gun technique. The difference is that roving unit involves the displacement of the firing unit versus the individual indirect fire weapon system. Taking advantage of the mobility of self-propelled artillery, the OPFOR can move artillery batteries or platoons to alternate or temporary firing positions within an assigned firing position area to escape enemy counterbattery fire.

## Deception Battery

The deception battery is a technique where the OPFOR creates an additional battery in an attempt to deceive the enemy of the actual battalion location. This technique is also referred to as the â fourth batteryâ technique.

The OPFOR may use two methods to create a deception battery. The preferred method is for a battery to split into two platoons. Additional weapon systems are allocated to the two platoons from the remaining two batteries to provide each platoon a signature of a battery. A second

method is for the battalion commander to issue instructions for each firing battery to provide one to two weapons systems to create the deception battery.

## False Battery

The false battery (or decoy battery) is a technique that involves the use of active and decoy weapon firing positions to give the appearance of a battery firing position. Depending on conditions such as the terrain, enemy situation, and mission, the battery commander may employ up to two indirect fire support weapons in each platoon position with the camouflaged decoys or nonoperational equipment in the primary firing position to create the impression of use. The remaining indirect fire support weapons move to a hide site a distance away from the decoy position.

## Shoot And Move

Shoot and move is a technique that involves the rapid displacement of a firing unit from a firing position immediately after completion of a fire mission. It is an effective countermeasure in protecting indirect fire support assets from enemy counterfire and counterbattery fire.

## Autonomous Weapon Attack

Autonomous weapon attack is a technique designed for individual indirect fire systems to operate independently in dispersed locations, from which they can attack single or multiple targets. They deliver devastating fires at precisely the right time and place on the battlefield with minimal risk to themselves. This technique exploits the capability of indirect fire systems incorporating onboard position location (such as GPS), fire direction, and survey systems. While integrated and digital communications facilitate this TTP, they are not required. It is simply a matter of coordinated timing and targeting. Completely dispersed indirect fire systems deliver ordnance to targets.

Although tactical in execution, autonomous weapon attacks can contribute to operational and/or strategic objectives and have both immediate and long-range effect upon the enemy. While this technique readily lends itself to supporting a strike, it may also be used at lower levels when the weapons or unit have self-locating equipment and/or a ballistic computer, and are provided with appropriate targeting information.

Autonomous weapons attacks can be executed by one or more weapons of the following types (with above capability):

- Cannon artillery (field gun, howitzer, or hybrid system).
- Mortar.
- Rocket (single or multiple launched).
- Missile.
- Any combination of the above.

The OPFOR may establish hidden ammunition storage locations or caches along access routes near the weapon firing sites. SPF, local sympathizers, or irregular forces may establish and service caches. If a cache is discovered by enemy troops, the FSCC or CFSC will direct the firing unit to another cache.

## Tactical Movement

Movement is particularly important during offensive actions, when the indirect fire support unit must keep pace with the advance of supported maneuver units. Fire support planners strive to maintain continuous support from the initiation of preparatory fire until the accomplishment of the offensive mission, including the commitment of an exploitation force. As indirect fires shift successively deeper into the enemy defenses, displacement of indirect fire support units

becomes necessary. Thus, after the initial fires in support of the attack, indirect fire support units supporting or subordinate to fixing and assault forces begin to displace. This displacement is preplanned to accommodate the advance of the attacking maneuver forces.

## Movement by Battalion

The movement of an indirect fire support battalion can follow several different patterns depending on such factors as enemy situation, mission, terrain, weather, and visibility. Once the battalion has reached the assembly area and completed its organization for combat, it may move by battalion or by battery.

Movement by battalion is possible only when the battalion has not been committed to battle or when there are other units available to perform any required fire missions while the battalion is moving. All elements of the battalion displace at the same time (based on a movement schedule) and are typically expected to be in their new positions at the same time.

## Movement by Battery

In the offense or defense, the most common movement technique is for an indirect fire support battalion to move by battery. The battalion moves its batteries individually by bounds. Depending on the route and the pace of combat, there may be a temporary halt to rearm and refuel during the movement. Once a battery is in its new position and ready to fire, the next battery starts to displace. Typically, the battalion fire control post displaces with the center battery.

## Movement by Bounds

An indirect fire support unit normally displaces by bounds, attempting to retain two-thirds of its weapons in positions within range to provide continuous support for the attacking or withdrawing force. In planning deployment of their units, indirect fire support commanders follow the â rule of a third.â For example, when only a third of the maximum range of their indirect fire support weapons remains in front of the attacking OPFOR troops, they move a third of their guns forward. Once redeployment starts, no more than a third of the available guns is moving at any one time. This leaves two-thirds of the weapons in position to support tactical maneuver actions.

# Logistics

The OPFOR applies the â push forwardâ concept of logistics. Units do not request ammunition; rather they are allocated ammunition in the fire support plan to support the maneuver battle. Ammunition has the highest priority within the OPFOR supply system. The determination of required expenditures is the responsibility of the IFC commander or CFSC, while the chief of logistics is responsible for delivery.

## Ammunition Resupply

The OPFOR uses standard cargo trucks as resupply vehicles for cannon and mortar systems. For towed systems, the trucks also serve as prime movers. The only dedicated ammunition resupply vehicles are for some MRL systems. These vehicles have the same chassis as the rocket launcher and are fitted with racks to hold the rockets during transport. Resupply vehicles for large-caliber MRLs have cranes for reloading the launcher. To the maximum extent possible, the ammunition remains loaded on resupply vehicles to maintain mobility.

In most cases, the ammunition packaging is designed so that two men can easily move any single item. This lessens the requirement for materiel-handling equipment at ammunition transfer points and in the firing position.

To facilitate the movement of ammunition, general practice is to establish ammunition transfer points for each IFC or maneuver brigade. Under normal circumstances, an indirect fire support battalion sends its resupply vehicles to this point to pick up ammunition and deliver it to the firing unit. Transport units may skip an echelon, if necessary, to keep units resupplied.

## Battery Resupply

Depending on the threat, time, terrain, and other conditions, the battery commander may accept the risk of conducting a resupply in the firing position. Whenever feasible, the transport unit offloads in the firing position any ammunition the firing unit will consume prior to repositioning. However, this is the least preferable method of resupply and, if all possible, should not be attempted.

When necessary, during movement, the battery will make one halt to reload the indirect fire support weapons, refuel (if required), and conduct necessary maintenance. Normally, this halt is short in duration, and the unit will proceed to its next firing position once resupply and maintenance actions are completed. The resupply point is normally a location that is covered and concealed along the route to the next firing position. If the size of the resupply point is large enough, all of the batteryâ  is indirect fire support weapons are resupplied simultaneously. If not, the maximum number of weapons that can be occupy the site at one time are resupplied followed by the remaining weapons. The resupply action is normally done in the order of movement. All of the vehicles remain in the area until the resupply action is completed. If there is sufficient time available, an advance party proceeds forward to prepare the next firing location.

## Reconstitution

Restoring combat effectiveness of subordinates is one of the most important duties of indirect fire battalion and battery commanders. It includesâ  ¯

- Determining the degree of combat effectiveness of subordinates.
- Detailing missions to subordinates that are still combat-effective.
- Withdrawing units from areas of destruction or contamination.
- Providing units with replacement personnel, weapons, ammunition, fuel, and other supplies.
- Restoring disrupted C2.

The OPFOR makes an effort to keep some units at full strength rather than all units at an equally reduced level. Usually, the unit with the fewest losses is the first to receive replacement personnel and equipment. However, once the casualties or equipment losses are sufficient to threaten the total loss of combat effectiveness, the commander may apply the concept of composite unit replacement. The composite unit concept involves a unit formed from other units reduced by combat action.