# Chapter 2
# Combat Service Support Planning

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## PLANNING GUIDELINES AND RESPONSIBILITIES

Success on future battlefields depends on how well CSS commanders and planners support the AirLand Battle. They meet the need generated from different types of operations and conflicts. In the separate brigade, the brigade S1 and S4 and support battalion commander and staff and company commanders have the primary responsibility of CSS planning.

Logistics and HSS planning are fully integrated into all operations planning. Logistics is synchronized with the concept of the operation. Logistics and HSS planning are continuous and concurrent with ongoing support execution. CSS planners ensure support during all phases of an operation. The CSS plan is as detailed as time permits. The SOP is the basis for battalion CSS operations planning conducted to determine specific requirements and prepare for contingencies.

Planners and operators understand the mission statement, intent, and concept of the operation. They know what each of the supported elements is doing. They know when and how they are doing it. They know what type and quantities of support are needed. They also know the priority of support, by type and unit. They recognize that in providing CSS for combat operations, they are continually involved in making decisions based on risk/benefit analyses. That is, they continually balance benefits derived from particular support concepts versus the risks.

In order to make these judgments, support battalion commanders and planners need to weigh various considerations. They base the considerations on the particular type of tactical operation to be supported. They also keep in mind the dynamic nature of the AirLand Battlefield and the need for flexibility.

There are several planning tools available. FM 101-5 discusses the logistics estimate for CSS planning. FM 8-55 is a comprehensive reference for HSS planning. FM 101-10-1 contains detailed planning data for combat operations.

The support battalion, along with unit-level support units, supports the brigade across the entire depth of the battlefield. However, at brigade level close, deep, and rear operations are practically indistinguishable. They are conducted with the same assets.

### CLOSE OPERATIONS, OFFENSE

There are different types of offensive operations. They are movement to contact, hasty attack, deliberate attack, exploitation, and pursuit. However, the support battalion commander organizes in ways that permit him

to change from supporting one type of operation to supporting another. The support battalion commander does this without interruption of service. Cavalry units normally perform reconnaissance and security missions in support of corps and division offensive operations. If required, cavalry units perform offensive operations as an economy of force for the corps or the division.

In some situations, one type of operation requires a change in emphasis of support. The support battalion commander and staff anticipate requirements and maintain continuous contact with the brigade staff. To have as much advance notice as possible and to ensure the separate brigade commander's course of action is supportable, the headquarters of the support battalion monitors tactical nets at all times. In planning for an attack, the support battalion ensures support equipment is ready. It also ensures supplies are in position and coordination is made to meet transportation needs.

As the attack progresses, the availability of adequate supplies and transportation to support the attack becomes more critical. Supply lines lengthen and communications are strained. Stay-behind forces attack support units to delay or stall the separate brigade offense. There are requirements for repair and replacement of weapon systems. The support battalion commander and staff anticipate these problems. They also maintain countinuous contact with the brigade staff. Communication links between the separate brigade main CP and the support battalion remain operational. All elements of the support battalion prepare to move forward by echelon.

## SUPPLY

The most critical supplies are Class III, V, and IX. To handle high fuel consumption, personnel build up forward stocks. They also prepare the Class III point to move forward rapidly to setup forward tactical refuel points. Class III and V are prepositioned in depth at subsequent positions or at LRPs for pickup by unit first sergeants. Support battalion units prepare to support forward but remain mobile to rapidly displace as the battle develops.

Though ammunition expenditure may not be as high as with a heavy defense, responsive resupply is essential. A significant problem is maintaining this support over extended supply lines. The support battalion ensures ATP elements are as far forward as tactically feasible. There is planning for forward movement of the ATP and coordination for transportation assets. The support battalion also coordinates with the artillery battalion S4 or maneuver squadron S4 for the ACR to preposition ammunition on request at designated firing positions.

Other supply considerations include–

- Forward positioning of essential support battalion elements. These forward logistics elements may include ammunition, POL, and maintenance elements. See Chapter 1.
- Weapon systems replacement.
- Movement at night.
- Preconfigured push packages of essential items if communications break down.
- Maximum use of throughput.
- Increased use of airlift/airdrop for resupply (especially for the covering force), especially for Class I, packaged Class III, Class IX.
- Potential use of captured supplies, especially vehicles, fuel, and medical supplies.
- Supply or resupply of Class VIII.
- Increased use of MREs.
- Use of controlled exchange and cannibalization as a source of repair parts.
- Availability of host nation support, particularly procurement of Class III bulk and packaged item transportation assets, building supplies, barrier material and in some cases sundry items.
- Obstacle-breaching and bridging materiel requirements.

## TRANSPORTATION

The offense heavily taxes transportation assets. Long lines of communications and high requirements for selected supplies and personnel replacements stress the system. The support battalion uses transportation assets carefully to ensure mobility to advance with the attack and to push support forward. It also plans to move refuel-on-the move equipment. The support battalion in coordination with the brigade rear and main CPs coordinates the movement of the support battalion to ensure continuous support. Early in the transportation planning process, the support battalion plans for use of nonmedical transportation assets to assist in the movement of casualties during mass casualty situations.

## MAINTENANCE

Maintaining momentum also requires having in the battle as many weapon systems as possible. Therefore, emphasis is on BDAR and rapid return of equipment to the brigade. BDAR and evacuation of combat vehicles are done efficiently and by priority. This precludes leaving valuable assets in the hands of the enemy.

Prior to the attack, personnel inspect equipment, perform required maintenance, and make up equipment shortages. Personnel replenish to the desired level the repair parts stockage and establish reserve stocks of critical items.

During the attack organizational mechanics perform repairs as far forward as possible based on the tactical situation. During intense combat, some inoperable equipment is left in place as the attack progresses. Recovery personnel and mechanics form trail parties to repair or evacuate equipment left behind by the main attack forces. MSTs include mechanics who make rapid and informed decisions on what can be repaired on site. They also determine what to evacuate, what to cannibalize, and what to abandon. MSTs use controlled exchange of parts prior to recovery operations. If they decide to abandon equipment, MSTs render the equipment useless to the enemy.

MSTs work closely with the supported battalion's BMO to make maximum use of lulls in the battle. MSTs get as much equipment mission capable as possible before action resumes. In fast-paced actions, the maintenance control officer acts on requirements from the MSTs. He coordinates air and ground transportation through the support battalion transportation officer to bring repair parts forward and evacuate damaged equipment.

### HEALTH SERVICE SUPPORT

Deliberate attacks are likely to result in high casualty rates. High casualty rates and long evacuation lines stress the medical resources of the brigade and may require them to be augmented. The type of offensive maneuvers, as well as the enemy capability, influences the character of patient evacuation work load. The support battalion pushes Class VIII forward. It is also ready to provide prompt evacuation in fast-moving situations. The support battalion identifies predetermined ambulance exchange/patient collection points along the axis of advance and evacuation routes. Elements without organic medical resources operating within the brigade AO receive HSS on an area basis from the supporting medical element.

In exceptional cases, increasing evacuation demands require the use of non-HSS transportation assets. When using nonmedical assets, the support battalion coordinates for reinforcing medical personnel to provide en route care. Using transportation assets this way intensifies the burden on the already stressed transportation system.

### FIELD SERVICES

The mobility of offensive operations causes the temporary suspension of some field services. These field functions are laundry, CEB, and bakery. However, mortuary affairs operations intensify. The support battalion ensures adequate mortuary affairs supplies are available. The other field service that assumes greater importance in the offense is airdrop. It is required to increase support mobility. Although airdrop support comes from the corps, the support battalion staff plans request procedures, drop zone selection and control, recovery of supplies, and evacuation of airdrop equipment.

## CLOSE OPERATIONS, DEFENSE

### SEPARATE BRIGADE DEFENSIVE ROLE

Separate brigade defensive operations break the momentum of the enemy's attack while maintaining the capability to shift to the offense with little notice. The HSB, SIB/TDB, or ACR conducts a static defense or varying degrees of a more mobile dynamic defense against a variety of threats and in differing terrain. The tactical mobility of the HSB, SIB/TDB, or ACR makes it well suited for the dynamic defense.

The support battalion commander supports the wide range of options available to the brigade commander conducting defensive operations. Without sacrificing support, the support battalion commander locates support battalion support points out of reach of possible penetrations in protected and concealed locations. Elements are also out of the way of potential retrogrades. Support battalion units disperse as much as possible without impairing command and control or security. They use built-up areas as much as possible. Support units defend against an enemy thrust through their area. The support battalion commander in conjunction with the brigade S3 plans ADA coverage and emphasizes passive measures.

During the preparation of the defense, priority of protection goes to those units preparing positions and obstacles. Once the positions are prepared, priority shifts to protection of the reserve, BSA/trains and CP

locations, and FARPs. CSS considerations for defensive operations include –

- Cache limited amounts of Class III and V on subsequent positions.
- Plan for increased use of Class IV and plan for transport of these materials.
- Plan to reorganize to replace lost CSS capability.
- Resupply during limited visibility.
- Use MSTs well forward (UMCP) to reduce the need for further evacuation of damaged vehicles.
- Echelon CSS assets in depth.
- Plan mobility operations to maintain MSRs.
- Plan to displace often.
- Emphasize recovery and evacuation of items of equipment that require extended repair time.

Other CSS considerations for supply, HSS, transportation, field services, and maintenance are in the following paragraphs for the ACR and separate brigade.

### SUPPLY

Supply operations are most intensive during the preparation stage. The support battalion plans to preposition critical supplies (particularly fuel, ammunition, and barrier material) far forward and in successive defensive positions. Supply personnel position and secure supplies out of the flow of the battle. As soon as the support battalion knows a defense is planned, it begins coordination with the COSCOM. They coordinate to have obstacle materiel throughput by corps assets as close to the emplacement sites as possible.

Throughout the defense, Class V expenditures are likely to be high. Supply personnel make plans to upload as much materiel as possible with the maneuvering units. Requirements are also high for chemical filters, MOPP gear, and decontaminants. In many defenses, however, consumption of fuel is low relative to rates during an offense.

### TRANSPORTATION

Transportation is most critical while preparing for a defense. Stockpiling supplies and shifting personnel and equipment before the operation taxes the system. The support battalion's major role in this area is to maximize use of its limited resources. It also coordinates additional transportation needs for support operations.

### MAINTENANCE

The maintenance company takes all required steps to place as many weapon systems as possible in serviceable condition. Operators, crews, MSTs and the maintenance company perform any necessary repairs authorized at their level of repair. Once defensive operations begin, the principles are the same as for the offense. However, in some defenses where lines are not extended, forward support is maximized by consolidating all maintenance company assets, including the SSTs, in the base shop. Forward support also means sending out small, highly mobile MSTs. These MSTs perform quick, on-site repairs or component exchanges.

### HEALTH SERVICE SUPPORT

Casualty rates are likely to be lower than in an attack. However, enemy action and the initial direction of maneuver to the rear complicate forward area acquisition of patients. Planners set priorities for evacuating patients on the basis of the location of the probable enemy main effort. Planners designate predetermined ambulance exchange points. The medical company commander/brigade surgeon also coordinates with the S2/S3 transportation officer. (In the ACR, the surgeon coordinates with support operations officer.)

### FIELD SERVICES

The field service functions of CEB and mortuary affairs operate routinely where the tactical situation permits. Mortuary affairs units evacuate the dead quickly. The support battalion staff ensures that laundry and CEB facilities in the BSA are far enough in the rear and out of the way of tactical units.

## RETROGRADE OPERATIONS

A retrograde operation is an organized movement to the rear or away from the enemy. Retrograde operations gain time, preserve forces, avoid combat under undesirable conditions, or draw the enemy into an unfavorable position.

Retrograde operations may be particularly complex for the support battalion because of the many activities that are taking place concurrently. Maneuver elements at a given time are defending, delaying, attacking, or withdrawing. All of these various kinds of action are supported under the overall retrograde operation.

To ensure uninterrupted support in any retrograde, support sites are well to the rear. The support battalion displaces early and when possible at night. Echeloning support battalion elements allows them to continue to provide support at old sites until new sites are operational. The support battalion moves as soon as possible any assets not essential to supporting forward elements.

Separate brigades and ACRs are frequently involved in delays. In a delay, forces are likely to be spread out over a wide front with little depth. As a result, support battalion assets are widely dispersed. To improve C2 in such cases, support battalion elements such as MSTs are OPCON to supported units.

### SUPPLY

To avoid the unnecessary destruction, loss, or hauling of supplies, managers control the flow of supplies forward to only the most combat essential. They evacuate all other supplies early. Managers use push resupply with a priority toward fuel and ammunition. Planners also consider supply of barrier material and fog oil to provide smoke at obstacles. Operators place supplies at preplanned fallback points along the withdrawal routes. This simplifies resupply, reduces road congestion, and permits early withdrawal of supply units. In a delay, with less depth of forces, planners anticipate less stockpiling of barrier material and ammunition. In all retrograde operations, transportation assets moving to the rear move any supplies which are already forward but not required by the delay force.

### TRANSPORTATION

Retrograde operations stress transportation resources. The support battalion continues to move essential items forward. It evacuates nonessential personnel and items early to avoid congested roads later. The support battalion makes sure all transportation assets moving resources forward assist in the evacuation effort. The transportation officer and BMMC coordinate with each other for movement needs. COSCOM MCTs are critical to controlling movements. Emphasis is on keeping supply and evacuation routes open.

### MAINTENANCE

Maintenance planning emphasizes support forward while moving most of the maintenance company rearward. Maintenance also emphasizes evacuation of equipment over forward repair. The support battalion uses tanks and other fighting vehicles whose weapon systems are inoperable to tow other vehicles with inoperable motor systems. Time for repairs is limited. The MSTs and contact teams concentrate on exchange versus repair and maximize cannibalization. Since command and control is difficult, MST leaders take the lead to keep the maintenance control officer aware of the team's location, resource status, and Class IX requirements.

### HEALTH SERVICE SUPPORT

HSS in retrograde movements may vary widely depending upon the operations, the enemy reaction, and the situation. The effect of time on treatment and evacuation is significant. The number of patients removed from the battlefield depends upon the time and means available. As the available time decreases, the battalion and brigade surgeons evaluate the capability to collect, treat, and evacuate all patients. When the patient load exceeds the means to move them, the tactical commander makes the decision as to whether or not patients are to be left behind. The surgeon keeps the tactical commander informed about the need to reach a timely decision. The tactical commander leaves medical personnel and supplies with patients who cannot be evacuated.

### FIELD SERVICES

Any laundry and CEB units in the separate brigade area move to the rear as soon as possible. Commanders temporarily suspend nonessential services. Deception planners integrate facilities of suspended activities into their plans.

## DEEP OPERATIONS

Deep maneuver is a high-speed, short duration, audacious operation. Planners reorganize maneuver forces to meet specific objectives. In particular, the ACR participates in deep operations of the corps as a maneuver force. The ACR also conducts its own deep operations using the aviation squadron, EW, and indirect fire. These forces can either carry all resources needed during the operation or be supported via a surface or an air LOC.

Planners carefully plan the support of deep maneuver. Early in the planning phase, the support battalion commander provides information to the brigade commander on logistics and HSS assets. The support battalion

probably has to be augmented with additional assets to support a deep maneuver by the brigade. Once the attack is started, innovative thinking and rapid decision making are key elements the support battalion commander uses to maintain the momentum.

The support battalion may accompany the brigade with the minimum assets to haul Class III and V supplies. With this option, the support battalion folds into the brigade movement formation, protected by adjacent combat elements and the inherent security offered by speed of movement. This method allows the brigade commander flexibility. He has support well forward when critically required.

Maneuver units carry as much Class III and V supplies as possible. Once across the FLOT, only limited emergency aerial resupply and evacuation are feasible. Units (by predetermined plan or SOP) dispose of equipment that is unable to maintain the pace of the operation.

The brigade commander may also augment the maneuver battalions with Class III and V supply assets from the support battalion. Each battalion then supports itself with its organic and attached assets. This increases speed of resupply and security, thus enhancing decentralization.

Remaining support battalion assets are in a position and state of readiness so that once an MSR is open and available, these assets immediately resupply and restore combat power.

Support of deep operations depends on the availability of transportation assets. With ground LOCs, MSRs need to be open and secure. Ground transportation moves supplies in support of units moving to the line of departure as well as to support those units once they move forward.

## REAR OPERATIONS

The primary purposes for conducting rear operations are to secure the force and neutralize or defeat enemy operations in the rear. Rear operations also ensure freedom of action in close and deep operations. Rear operations protect necessary CS and CSS from disruption. The brigade commander is responsible for the protection of the brigade rear. The support battalion commander is responsible for the protection of the brigade support area. Support battalion facilities and supplies must be safe from ground, air, and missile attack. The support battalion prepares to support projected operations without decreasing the support to currently engaged units. Effective planning requires open communication lines and quick reactions on the part of the support commander. Further information on rear operations is in Chapter 5.

## OUT-OF-SECTOR SUPPORT OPERATIONS

Out-of-sector CSS is that CSS required to adequately support a US Army force deployed within the theater but outside the US sector. Contingency plans, general war plans, or operation orders include provisions for such deployment of US Army units. These units are deployed either unilaterally or as a part of an allied combat formation. Plans for the deployment of US Army units outside of the US sector include provisions for their CSS. Consideration is given to the following:

- Size and mission of the force.
- Deployment location of the force in relation to other US units.
- Support capability of the allied force to which the US force maybe assigned.
- Support capability of the host nation.
- Self-supporting capability of the US force.

### SIZE AND TYPE OF FORCE

The size and makeup of the force dictate the type of support units require and the organization of the support. Normally, the brigade deploys out of sector in its entirety or as part of a larger force. However, when only part of the brigade deploys out of sector, and it cannot be supported from the US sector or by the allied force in which assigned, support battalion elements are included. These elements are organized into a provisional support platoon or company. If US forces or the allied force to which the brigade is assigned cannot provide backup CSS to the support

battalion, the support battalion may be augmented by COSCOM or TAACOM units.

### MISSION

Planners consider the mission of the brigade force when tailoring its CSS. For example, if a brigade is deployed out of sector and is the forerunner of a larger force, additional CSS elements are deployed.

### SUPPORT CAPABILITY OF ALLIED FORCE

Before a US separate brigade deploys out of sector, negotiations are conducted with the allied force to which the US force is assigned to arrange for common item and other logistics. This may include transportation, maintenance, and Class I, III, IV, V, VIII, and possibly Class IX supplies. As a minimum, a letter of agreement is concluded if time permits. However, the rapid mobility of forces may preclude formal written agreements prior to initiation of support by allied forces. The separate brigade obtains the balance of its support from the host nation and from US resources. The separate brigade has teams attached to accommodate handling of contracts with local national organizations/firms.

### HOST-NATION SUPPORT

The theater commander and staff decide to deploy a US separate brigade out of sector and conclude negotiations with the allied force to which the brigade is assigned. They then conduct further negotiations with the host nation to obtain the required logistics. If agreements exist between either the US and the host nation or between the allied force and the host nation, such agreements are applied. Higher headquarters obtains the balance of the support from US sources.

### CONDUCT OF PLANNING

The theater army commander plans for the deployment and support of US separate brigades out of sector. He does this either unilaterally or in coordination with allied commands. The US theater army commander develops unilateral plans to support US-declared contingencies. He develops plans in coordination with allied commanders or with the direction of the allied command to which the theater army is assigned. Such plans support multilateral operations and require approval through US channels.

## LOW-INTENSITY CONFLICTS

LIC does not describe a specific activity or operation. Instead, it is an environment in which operations in four general categories occur:

- Support for insurgency and counterinsurgency.
- Combatting terrorism.
- Peacekeeping operations.
- Contingency operations in LIC.

The involvement of a separate brigade in a LIC ranges from small teams providing humanitarian support to an entire separate brigade deploying independently. It may be a part of a larger force such as a heavy augmentation to a LID. The level of development of the theater and the expected duration of the mission may require that the support battalion receive additional assets to perform functions that the COSCOM normally does for the brigade. If the brigade deploys as part of a larger force like a division, the role of the support battalion and its relationship to its higher headquarters is clearly spelled out in the OPORD. The brigade is not likely involved in combatting terrorism beyond its normal security operations.

During support for insurgency and counterinsurgency, brigade support consists of small teams. These teams provide general supply, maintenance, ammunition, HSS, and transportation support to indigenous force tactical operations.

The whole brigade needs to be aware of the political considerations, legal constraints, and local customs and traditions. Planners coordinate public affairs plans, command information, CA plans, and PSYOP with the host nation and US embassy.

The support battalion role in such operations includes two elements. First it provides support to the teams themselves. Secondly, it has to provide support to the host country to improve military and civil organizations. Major roles, however, in humanitarian assistance and civil action projects are beyond the capability of the support battalion. The brigade S1/AG, S4, and support battalion commander and staff coordinate with the brigade S5 to determine the requirements that local resources can meet. Force planners provide corps or EAC assets for requirements that the support battalion and local resources cannot meet.

Support to counterinsurgency may involve the separate brigade participating in a foreign internal defense where it acts as a security force. In such situations, support battalion operations are very similar to those during conventional operations. In early stages the support battalion needs to emphasize supply of construction and barrier material to prepare bases. Support battalion movements require additional security as they travel along supply lines that are subject to interdiction. Ammunition requirements center around small arms ammunition and mines.

The separate brigade participates in PKO under the auspices of an international organization. This is done in cooperation with other countries or unilaterally. In all cases, the peacekeeping force remains neutral to keep its credibility and acceptability. In some cases, neutrality is not in question. When that is true, host-nation contractors are used for maintenance of military and commercial equipment, fresh foods, dining facility operations, laundry, CEB, and transportation. When the appearance of neutrality is a factor, host-nation support is not a significant source of support. In these cases, force planners include assets to perform these functions or find an independent contractor. Also, because the support battalion may have to support all members of a PKO force, planners consider the type and content of foods for religious and cultural reasons. Finally, since the force is neutral, the medical element may not undertake independent and unplanned medical civic assistance programs.

Separate brigades conduct contingency operations throughout the operational continuum. Support battalion considerations for contingency operations in general are presented later in this chapter. In LIC, contingency operations involve crisis avoidance or crisis management. They are sudden and joint in nature and require close coordination with all Services. They occur in areas of the world that have limited host-nation resources and airfield and port capabilities. Specific types of operations include:

- Support to US civil authorities.
- Military support to counterdrug operations.
- Disaster relief.
- Security assistance surges.
- Noncombatant evacuation operations.
- Rescue and recovery operations.
- Shows of force and demonstrations.
- Operations to restore order.
- Unconventional warfare.
- Strikes and raids.

Since contingency operations are usually of short duration, nonmission essential support is limited. The support battalion leaves behind nonessential assets. The battalion does this to maximize the assets it brings with it to conduct essential services. The battalion also leaves behind assets to conduct operations that can be performed by HNS resources.

FM 63-6 has additional information on CSS for LIC operations. FM 8-42 provides an in-depth discussion of medical operations in low intensity conflict.

## SECURITY OPERATIONS

Separate brigades and ACRs perform security missions. The missions provide information about the enemy and terrain. They preserve the combat power of maneuver forces to be concentrated at the point of decision. Screen, guard, and cover missions protect the main body and provide early warning. These missions also free the main body units to concentrate combat power. The separate brigade plans and performs successful security operations keeping five fundamentals in mind:

- Orient on the main body.
- Perform continuous reconnaissance.
- Provide early and accurate warning.
- Provide reaction time and maneuver space.
- Maintain enemy contact.

### SCREEN

A screening force maintains surveillance and provides early warning to the main body. It impedes and harasses the enemy with supporting indirect fires. It also destroys enemy reconnaissance elements within its capability.

The ACR as a whole is seldom assigned a screen mission. However, squadrons within the ACR perform screen missions as part of a regimental mission. Separate brigade elements may use similar techniques.

When they do, the support battalion uses the same techniques described below for the RSS.

### Stationary Screen

Armored cavalry squadrons establish successive screen lines. Their organic CSS assets support extended frontages and stay mobile. They also have to support extended operations. Therefore, the RSS has to provide supplemental transportation to the squadron. It provides additional supplies. It also provides maintenance capability to make the squadron more self-supporting. Any support assets sent to supplement squadron trains are accompanied by transportation to retain mobility.

### Moving Screen

An armored cavalry squadron conducts a moving screen when the main body is moving either in the attack or in retrograde. If the squadron is screening for the regiment, the RSS is with the main body. Squadron trains may move with the RSS for protection and to enhance support coordination.

The squadron may also screen for another unit. The RSS and RS4 coordinate with that unit's CSS element to have squadron trains move with the CSS element in the main body. Only essential elements of the combat trains are likely to accompany the cavalry squadron. The RSS provides additional transportation for mobility if required.

Separate brigade elements may also use similiar techniques. Battalion trains along with any required augumentation from the support battalion maintain a central location behind the screen line, responding to calls for the evacuation of the wounded and for damaged vehicles. Battalion trains always move to the next screen line as the force prepares to move to its next screen line.

## GUARD

A guard mission is normally assigned to a squadron or battalion. A guard force accomplishes all the tasks of a screening force. However, its operations differ from a screening operation. It prevents enemy ground observation of and direct fire against the main body. It reconnoiters, attacks, defends, and prevents enemy direct fire against the main body. A guard force normally operates within the range of main body indirect fire weapons. The commander deploys a guard force over a narrower front than a screen to permit concentration of combat power.

In fast-moving situations, elements of the support squadron or battalion operate well forward to ensure continuing support. These elements typically include ammunition, bulk fuel, EMT, and medical evacuation assets. They also include on-site repair teams and equipment recovery arid evacuation resources. The ACR employs squadron support aircraft for CSS operations. Priorities are set by the regimental S3 section in coordination with the squadron S3 and S4.

## COVER

The separate brigade conducts covering force operations. It normally forms the central element of the corps commander's covering force. A covering force accomplishes all the tasks of screening and guard forces. It operates apart from the MBA to develop the situation early. It deceives, disorganizes, and destroys enemy forces. A covering force is tactically self-contained. It is capable of operating independently of the main body.

A covering force in a defense conducts operations to either defend against or delay an attacking enemy force. It is tasked to force the enemy to prematurely deploy and commence his attack. It identifies the enemy's main effort. A covering force also reduces the enemy's strength by destroying specific maneuver units or stripping away essential CS units.

Because of the usual necessity for a covering force to fight a major engagement, the separate brigade is normally provided with additional combat, CS, and CSS units. If the elements come from a division, they come with their organic CSS assets as well as a slice of the DISCOM. Other support assets have to come from the COSCOM.

The brigade commander positions forward in the covering force area only those CSS assets immediately essential to the operation. Key items are bulk fuel, ammunition, limited maintenance, and HSS. COSCOM HETs may also be necessary to evacuate heavy equipment. Aeromedical evacuation assets maybe deployed in the covering force area. The tactical commander determines if the casualties are held until linkup rather than being evacuated out. Medical treatment assets are normally positioned at a larger site rather than in the covering force area.

CSS assets are withdrawn when no longer required. They are also withdrawn when the risk of their loss becomes unacceptably high. CSS for the covering force with a defend mission requires the propositioning of supplies. It also requires forward positioning of

maintenance and an increase in barrier materials and ammunition. The support battalion relies on the corps to preposition supplies and to deliver barrier materials to emplacement sites. A delay mission requires the allocation of more time or more assets to preposition supplies at additional delay positions.

## CONTINGENCY OPERATIONS

The separate brigade responds to a variety of contingencies. It reinforces US and allied forces deployed anywhere in the world. The separate brigade also deploys alone to areas of minor conflict. There may not be US or allied bases. The brigade also deploys as part of a contingency corps or larger sized force. In such cases, it has a normal combat role or a role as a rear operations force.

Support requirements are different for each contingency operation. Each contingency mission requires intensive CSS planning. Support battalions of the separate brigade prepare to support operations in any environment and under any set of circumstances.

Unless in-country support is available, the contingency force takes with it the assets required to support itself until establishing lines of communication. Regardless of the support package the separate brigade deploys with, it eventually requires supply replenishment, replacements, and maintenance support beyond its organic capability.

During early phases of contingency operations, the support battalion may echelon its assets. This involves using a forward logistics element and forward logistics base. The forward logistics element may include Class I, III, and V. See support concepts in Chapter 1.

Support of contingency operations is phased. It is critical the planners synchronize the deployment of separate brigade units, supplies, and CSS C2 with the increase in combat capabilities.

Some considerations for support of contingency operations are —

- Prior to its deployment, the separate brigade establishes request procedures for each phase of the operations. The separate brigade cannot carry all necessary classes of supply. The support battalion needs augmentation before deployment (such as, trucks, HETs, MHE, container-handling capability, POL haul capability, and ROM kits) from corps. The separate brigade support battalion is plugged into a support base as soon as it arrives in a new AO.
- The separate brigade has attached units requiring support of different types of equipment. Supply planners need to identify early the density of this equipment and the required Class IX. It is also necessary for the COSCOM to load this data into its supply management system to preclude rejection of requisitions.
- The separate brigade considers the work load captured weapons and ammunition place on the force structure. The work load may be immense for receipt, storage, safeguarding, controlling, and movement of captured items.
- Personnel planners for mortuary affairs prepare remains evacuation flow diagrams. The plan identifies each point and the responsible person at each point as the remains change custody.
- In a contingency area, the separate brigade (early) identifies the types of fuel available. This way, there is less fuel filter consumption.

## RECONNAISSANCE OPERATIONS

The main purpose of reconnaissance is to gain information of tactical importance about the enemy, weather, or terrain. Terrain information includes terrain features and trafficability. It also includes natural and man-made obstacles and other aspects of the environment. Reconnaissance also determines the attitudes, activities, conditions, strengths, and locations of significant numbers of civilians.

The ACR normally performs reconnaissance in a wide zone. The regiment may have three ground squadrons abreast and the RAS forward. The regimental commander establishes adequate control measures to ensure synchronized reconnaissance. He also decentralizes execution to the squadron commanders. If the separate brigade is given a similar mission the same considerations apply.

The ACR accomplishes reconnaissance as an aspect of offensive cover. It also accomplishes reconnaissance by directing squadrons to perform the mission. Reconnaissance is the primary mission of the RAS. When assigned a zone reconnaissance mission, the corps commander allows the regimental commander considerable freedom of action. This allows the reconnaissance effort to pull the corps main body along the lines of least resistance and seize opportunities as they occur.

During reconnaissance operations, the depth of the zone or anticipated duration of the operation dictates arrangement of CSS assets. It also dictates how many assets are forward. The RSS is positioned properly and is mobile enough to support the reconnaissance mission. Class III and V are the major concerns. Certain general considerations guide planning and preparation. The emphasis on any particular consideration varies with the mission assigned. Emphasis, priorities, and requirements may also shift as the operation is underway. The availability of adequate supplies and transportation to support the operation becomes more critical as the operation progresses. MSRs lengthen, communications are strained, and requirements for repair and replacement of weapon systems are increased. Maintaining the momentum of the operation is the overriding consideration in supporting reconnaissance. Some general planning considerations in supporting a reconnaissance operation are —

- Echelon squadron trains. Combat trains remain mobile.
- Position a portion of each essential CSS asset, such as ammunition, POL, and maintenance, in the combat trains.
- Ensure basic loads remain replenished.
- Plan for an increased consumption of POL.
- Use push packages of preplanned and preconfigured essential logistics items.
- Plan for increased vehicular maintenance, especially when operating over rough terrain.
- Use maintenance support teams well forward.
- Plan use of airlift and airdrop for resupply.
- Suspend most field service functions.
- Select supply routes, LRPs, and subsequent trains locations for the entire operation. Plan alternative routes and means.
- Prepare for increased casualties, additional evacuation, and increased mortuary affairs requirements.
- Upload in advance as much as possible logistics assets required for the operation.
- Plan for increasing distances and longer turnaround times for MST operations.

## HEAVY/LIGHT OPERATIONS

Effective integration of light and heavy forces maximizes the capabilities of each type of force by using the advantages of one type to offset the limitations of the other. Not all situations are suitable for light-heavy/heavy-light operations. In considering integration of light and heavy forces, planners match the force to the METT-T.

The Army categorizes forces as heavy on the basis of their ground mobility. Heavy forces include mechanized infantry, armored, and cavalry forces. Heavy forces are most effective where battles are fought over wide areas of relatively unrestricted terrain. They seek to engage targets at the maximum ranges of their weapon systems. Engagements are fast-moving and cover large areas of the battlefield.

Light forces provide versatility and strategic flexibility through their capability for rapid deployment. However, once they deploy, light forces have limited mobility and firepower. Light forces achieve maximum advantage in close terrain where enemy forces cannot attack them beyond the range of their weapons. In such terrain, they can deny the enemy unhindered movement. Light forces are most effective when given an offensively oriented mission.

In addition, light forces fight at night and in limited visibility. Heavy forces are most vulnerable at night. They are especially vulnerable in restricted and close terrain where enhanced optics are of limited use.

When task organizing heavy and light forces, commanders and staff recognize and consider these capabilities and staff planning considerations of each organization. There is no set formula for task organizing heavy forces and light forces. However, there are some basic considerations for employing light forces in conjunction with heavy forces that are applied. Considerations for developing the proper

command/support relationship for any mix of light and heavy forces are —

- The size and mission of the force.
- The distance of the deploying force from the support base of its parent unit.
- The support capability of the receiving force. This capability is particularly important to consider in the case of light forces. The different types of light forces have significantly different support capabilities.
- The relationship between the deploying support element and the receiving unit.
- The source of support for each force.
- The self-supporting capability of the deploying force.

As a general rule, light forces cannot support the demanding logistics requirements of heavy forces. Light forces do not have the assets to move the large quantities of supplies and equipment heavy units require. Nor do they have the maintenance assets to support heavy equipment. Special arrangements are also required when a heavy unit supports a light one. The light force has equipment that the heavy support unit does not normally support. Also, light forces lack an ability to move significant amounts of reserve stocks. This means that planners arrange for rapidly supplying packages of critical supplies to light units. These packages (which include Class IV and V items such as wire, mines, and survivability items) are carefully planned in advance.

A separate heavy brigade can be placed OPCON to a light division for a long duration. It has CS and CSS assets integral to its organization. A separate brigade also receives its CSS from corps. In this situation, the heavy separate brigade takes its normal corps slice of CS and CSS assets. This allows the light division to control the heavy separate brigade, but not become overburdened with support operations.

As with the separate heavy brigade operating with a light division, the preferred option for a light brigade operating with a heavy division is a separate infantry brigade OPCON to the heavy division. The separate infantry brigade support battalion links directly to the COSCOM and coordinates with the heavy DISCOM support operations branch. If it is attached, the heavy division requires more support from the COSCOM. Also, increased equipment densities exceed the maintenance capabilities of the division and require additional assets from corps.

A light battalion maybe attached or OPCON to a heavy brigade. A light battalion attached to a heavy brigade is the preferred option when combining light and heavy forces at this level. However, when the light battalion is task-organized to a HSB, planners in the HSB understand that light fighters are exactly that – light. The more they have to carry, the slower they move and the smaller the advantage of their relative mobility in restricted terrain. Heavy force support planners recognize that providing too much support forward involves considerable risk.

The preferred relationship of a heavy battalion task-organized to the separate infantry brigade is OPCON. In such cases, the heavy battalion continues to coordinate support requirements with its parent brigade S4. The distance between the heavy battalion and its parent brigade support base is a key consideration in determining whether the battalion is supported through an OPCON relationship. Another consideration is the mission of the remaining elements of the brigade.

Regardless of the C2 relationship, a CSS liaison element should accompany the unit operating under a new controlling headquarters. It coordinates support and ensures information flows between the deployed unit to the controlling headquarters. This information includes —

- Critical fuel and ammunition requirements.
- Status of each class of supply to include water.
- Maintenance requirements and backlog.
- Class IV, V and IX requirements and availability.
- Movement requirements and available transportation assets to include aircraft.
- Availability of medical treatment and evacuation assets.
- Locations of support elements.
- Status of support personnel.
- Anticipated support problems.
- Compatibility of automated equipment.
- Unique equipment.

## NIGHT OPERATIONS

Support battalion commanders anticipate a substantial amount of their units' work being done at night or in limited visibility. They plan for the equipment needed and the precautions necessary to perform the mission in such conditions. For these types of operations, they consider —

- Reducing electromagnetic emission. Support activities are a major source of such emissions. Support battalion commanders continually emphasize the role and use of wire, messengers, and sound and visual signals.
- Appropriating civilian buildings to reduce thermal signatures.
- Lightproofing shelters.
- Using filtered lights.
- Using night vision devices.
- Using roving patrols and listening posts and observation posts with either attached military police or organic personnel.
- Eliminating all but essential noise.

In addition, the BSA is susceptible to a night attack. This may further slow down logistics and HSS activities.

Use of chemical lights may be applicable. Possible techniques include the use of–

- Chemical lights to light CP areas, eliminating generator noise and thermal signature.
- Chemical trip flares which create no fire hazard but illuminate targets, mark target reference points, or mark ranges.
- Magnetic holders to allow placement of colored chemical lights on vehicles.
- Chemical lights to illuminate areas of vehicle engine compartments for night repair.
- Chemical light holders to regulate the amount and direction of light.

### SUPPLY

Supply planners anticipate high consumption of batteries, flashlights, and illumination rounds during night operations by their supported brigade. Also units use additional fuel to run vehicle-mounted night sights.

Use of prestocked supplies requires careful coordination. Personnel are able to find locations in limited visibility. Personnel take care to ensure that propositioning does not signal an attack.

Use of MHE is more dangerous at night. MHE operators train to use night vision goggles. They also load supplies on transportation assets during the day to be delivered at night. External SOPs require supported units to provide additional walking guides or personnel to load supplies onto trucks.

### TRANSPORTATION

When brigade units conduct night operations, each vehicle has a detailed strip map and an assistant driver. They use available night vision devices. Personnel mark MSRs clearly.

Aerial resupply requires a directional light source to guide helicopters. Personnel use directional strobe lights or bean-bag lights (and in emergencies, chemical lights.)

### MAINTENANCE

Unless prohibited by the tactical commander, maintenance company elements work in lightproof shelters with subdued visible light. Personnel drop tarps and tentage over weapons and vehicles to provide expedient shelters. When available, they use night vision devices to repair critical items that cannot be fixed in the shelter. They preposition equipment, tools, and repair parts and mark them for easy use.

BDA is difficult. Therefore, personnel place recovery vehicles forward during night attacks. They move equipment to a location where they perform assessment more easily. Recovery personnel reconnoiter routes during daylight so they rapidly recover vehicles to the MCP.

### HEALTH SERVICE SUPPORT

Light discipline requirements affect HSS operations much as they do supply and maintenance operations. Extensive treatment operations require lightproof shelters. Patient acquisition is more difficult. Units employ some sort of casualty-marking system such as luminous tape or filtered flashlights.

Limited visibility slows evacuation. This requires additional ground ambulances to compensate. In the offense, ambulances move forward with the BASs. However, personnel have to accomplish this movement carefully to avoid signaling the enemy. Personnel use predesignated AXPs and patient-collecting points.

## NBC OPERATIONS

Certain threat forces have built up their combat capability to employ NBC weapons and to survive and fight in an NBC environment. Their doctrine clearly envisions employment of chemical weapons with either nuclear or conventional weapons. Their forces are large, well equipped, and well trained in NBC operations and defense. In addition to specialized NBC troops, other threat combat and CS forces receive extensive NBC training. Therefore, it is imperative that support battalion personnel are capable of operating in such an environment.

Contamination avoidance, protection (individual and collective), and decontamination are the basic defense against NBC hazards. Support battalion personnel train in these defensive measures to minimize the effects of NBC attacks. FMs 3-3, 3-4, 3-5, 3-100 and 8-10-4 have details.

The NBC environment poses a challenge to the separate brigade CSS system. In an NBC environment, personnel casualties increase, compounding the mortuary affairs and HSS work load. Equipment and supply distribution points support damage from nuclear blasts and fires caused by thermal radiation. Maintenance needs increase sharply, quickly depleting levels of supplies and equipment. Demands for repair parts increase, while fewer people are available to continue the support mission. In an NBC environment, logistics and HSS personnel have to work in full protective equipment for extended periods, resulting in lower productivity. It is necessary to augment the brigade to provide adequate decontamination systems and support.

### NBC PLANNING

The S2/S3 section is responsible for developing the NBC defense plan. The section reviews the tactical SOP. The section also reviews the brigade NBC vulnerability analysis to develop the plan. The plan includes an NBC defense requirement forecast. It also includes a set of priorities for decontamination of support battalion assets. The S2/S3 section directs preparation for an NBC attack. It identifies reinforced C2 procedures and components of and procedures for NBC defense teams. In developing the defense plan, the branch coordinates with the following elements:

- Support battalion S1 and medical company for medical evacuation and treatment support. A team of nonmedical personnel accomplishes the patient decontamination mission prior to treatment and evacuation.
- Support operations section (ACR) for alternate support methods.
- Communications section for alternate lines of communication.
- COSCOM for additional decontamination support.
- All subordinate elements for dissemination of the NBC defense plan.

The defense plan for NBC operations is flexible and receives wide dissemination. NBC operations require increased emphasis on —

- Contamination avoidance.
- Increased dispersion of units.
- Plans for alternate methods of supply, services, and HSS. Planners should expect interruptions in the LOCs.
- Balance of the need for increased movement against the capability to perform the mission.
- Continuation of CSS with reduced resources.
- Possible changes in basic loads.
- Plans to increase the CSS capability by the addition of NBC decontamination teams as required.
- Provisions for rapid augmentation or movement of HSS units, on-site emergency treatment, and timely evacuation of large numbers of patients.
- Traffic control to prevent development of potential targets resulting from traffic congestion.
- Plans for the rehabilitation of critical routes as soon as possible after damage.
- Plans for the procurement of civilian manpower and materiel resources. Such resources supplement separate brigade capabilities in rear operations and CSS functions.
- Plans which reflect that the tempo of all operations slow down. Plans should also reflect that some activities come to a halt in an NBC environment. This occurs because individuals or units have to operate in protective clothing, equipment, or facilities. In addition, personnel change work procedures to lessen contamination.

- Significant increases in demand and consumption of individual and unit NBC clothing, equipment, and supplies.
- Provisions for a team of nonmedical personnel to decontaminate patients under supervision of medical personnel.

## CONTAMINATION AVOIDANCE

The main defensive measure against NBC hazards is contamination avoidance. This reduces and sometimes eliminates requirements for protection and decontamination. Measures include –

- Taking passive measures such as dispersion, cover, concealment, deception, camouflage, and OPSEC.
- Tasking soldiers to chemical detection and radiological monitoring/survey teams. These teams obtain information about contamination hazards. Advance warning is vital to avoidance. They deploy remote and local automatic alarms to provide early detection, warning, and identification of NBC hazards. The support battalion places and maintains the NBC contamination marking signs in the BSA. FM 3-100 covers NBC marking in depth.
- Limiting contamination spread. Personnel take measures before, during, and after an NBC attack to limit the spread and exposure to other individuals, equipment, and area. These include prescribing levels of MOPP.
- Relocating to an uncontaminated area. Unless the attack consists of a nonpersistent chemical agent, the BSA is generally moved as soon as the tactical situation allows to minimize exposure to residual hazards. If the battalion commander makes the decision to remain in place, the contamination hazard is lessened or avoided as much as possible. The support battalion commander works with brigade rear and main CPs to analyze the units' situations to determine if immediate relocation to a clean (uncontaminated), alternate location is necessary and possible. He gives primary consideration to the current tactical situation and protection offered by present position. He also considers the increased exposure to the hazard caused by relocation and the possibility of further NBC attack. The degree of decontamination required and the impact of continuing to provide support in partial or full protection also affect the decision.

## PROTECTION

The support battalion S2/S3 directs his unit's response to an NBC attack in coordination with the brigade S2/S3. The battalion S2/S3 alerts higher, adjacent, and subordinate units, including aid stations and mortuary affairs units, of NBC attacks and hazards. The S2/S3 also files NBC reports in accordance with SOP and the OPLAN/OPORD.

On the individual soldier level, the best protection against a nuclear attack is to be well dug in with overhead cover. Deeply dug foxholes, caves, tunnels, or storm drains provide good protection. Most buildings do not. Basements of concrete or steel framed buildings are adequate if available. Personnel react immediately to the initial sign of attack, a flash. They drop to the ground or into a foxhole immediately without trying to move to cover. They close their eyes, put arms near or under their bodies, and keep helmets on. They stay down until the shock wave has passed and returned. Once it passes, injuries are treated and preparations are made for ensuing fallout. Personnel monitor the area and appropriate actions are taken. Improvements are made to shelters and food and water are placed in protected areas.

The basic individual protection against a biological agent attack is the wearing of the protective mask with hood attached. The duty uniform and gloves provide additional protection against bites from vectors. Such vectors include mosquitoes and ticks that carry disease microorganisms. Adequate protection against biological toxins such as "yellow rain" requires MOPP 4.

In a chemical environment logistics personnel wear MOPP gear for extended periods, which results in lower productivity. All soldiers know the signals and alarms and react to them quickly. Detection teams are designated in advance to survey contaminated areas.

## DECONTAMINATION

When personnel, equipment, and areas within the BSA are exposed to NBC contamination, decontamination measures are taken as soon as possible. Decent amination is the process of making any person, object, or area safe by absorbing, destroying, neutralizing, and making harmless the contaminant. It is the removing of chemical or biological agents or radioactive material. Decontamination stops the erosion of combat power and helps the unit avoid casualties. Results of fallout surveys, tactical plans, and NBC warnings and predictions from the brigade determine the decontamination steps.

## SUPPORT MISSION IMPLICATIONS

When the enemy uses nuclear weapons or chemical/biological agents, the support battalion undergoes unusual demands. Planners set priorities in advance to ensure effective logistics during an NBC attack. Normally, planners give supply of ammunition, fuel, food, water, and chemical defense equipment and essential maintenance the highest priorities. The following paragraphs discuss these demands and the measures to counter an NBC attack.

### Supply

In an NBC environment, the most critical supply items are issued on an automatic basis. Emergency resupply is by air. There is a marked increase in contaminated supplies. Personnel check (monitor) supplies exposed to contamination before use or issue. They do not normally issue contaminated stocks. Until fully decontaminated, they are segregated from clean stock. In emergencies, when no other stocks are available, supply personnel issue certain contaminated supplies. However, they issue contaminated supplies only if it would give the receiving unit a decisive tactical advantage. They issue contaminated supplies first to units similarly contaminated. Only under the most dire circumstances do they issue contaminated stocks to an uncontaminated unit. The issuing and receiving commanders jointly decide to issue contaminated items. Supply personnel try to avoid the spread of contamination. They clearly mark contaminated stocks using standard NBC markers.

**Class I.** Supply personnel do not normally provide Class I to units operating in or near contaminated areas. Units carry enough MREs to conduct operations without daily resupply. Also, emergency nutrients that soldiers consume while wearing the protective mask are issued in an active NBC environment. Units store rations under protective coverings or in containers to prevent or reduce contamination. They limit decontamination efforts to removing the containers and carton overwrap. They normally do not use contaminated rations. Veterinary personnel provide technical help and advice on the use of rations.

**Water.** Supply points do not issue, and units do not use, contaminated water. Preventive medicine personnel monitor water prior to issue and use. Purification operations practice avoidance in all but extreme emergencies. If personnel suspect that a water source is contaminated, they mark it with standard NBC markers. No one uses that water source until personnel test it, treat the raw water from the source with a ROWPU if necessary, and determine that it is safe to use. Sometimes personnel cannot treat contaminated water for drinking purposes. In that case, they dispose of it in a manner that prevents secondary contamination. Water personnel also mark the area. They monitor all water treatment, storage, and dispensing equipment frequently for possible contamination.

**Class II.** Selected Class II items, such as chemical defense equipment, receive priority of issue to selected units on an NBC battlefield. The brigade commander gives highest priority support to units located in contaminated areas. He gives the next priority to units that recently left contaminated areas. He gives the third priority to units deployed in forward areas.

**Class III.** Class III supply is critical in an NBC environment. More frequent unit moves increase consumption. In emergencies, corps units deliver directly to tactical units and forward arming and refueling points. Emergency resupply to isolated units is by air. Supply personnel disperse storage locations and activities. They protect ancillary equipment to the same extent as major items of equipment. Storage tanks and bladders protect bulk petroleum to a large degree. However, supply personnel take precautions to reduce contamination on tanks and bladders.

**Class IV.** Selected high-usage Class IV items come in shipping containers for protection against NBC effects. This reduces handling and allows for responsive support. Supply personnel may issue contaminated or partially decontaminated Class IV items when properly identified. The user decontaminates contaminated Class IV items.

**Class V.** In NBC conditions, supply personnel separate Class V supplies from other commodities. They keep them as mobile as possible. Protective covers lessen exposure to nuclear and chemical contamination. Ammunition support elements decontaminate ammunition under their control. Large-scale decontamination requires additional support. If the situation requires the issue of contaminated stocks, supply personnel use the standard NBC markers. ATP personnel prepare to operate in contaminated areas if no uncontaminated areas are available.

**Class VII.** In NBC conditions, corps heavy materiel supply companies decontaminate Class VII items before issue. If supply points have to issue contaminated items, the receiving unit is responsible for decontamination. Before issue of contaminated items,

supply personnel put the standard NBC marker on the item. They make every effort to avoid abandoning Class VII items due to contamination.

**Class IX.** Supply personnel normally issue contaminated Class IX items only in emergencies. In such cases, personnel issue these items for critical weapon systems. Before issue, personnel mark the items with standard NBC markers. They check repair parts, especially sensitive electronic parts, for damage before issue.

### Transportation

There may be contaminated supply routes. However, personnel use these supply routes with the use of protective equipment. Vehicles using these routes also require decontamination. This is very time consuming and causes delays in delivery of cargo. Therefore, personnel take special precautions to avoid contaminated supply routes.

Personnel use NBC reconnaissance and strict traffic control measures to aid in contamination avoidance. This limits the spread of contamination and exposure to other individuals, equipment, and areas. Detours and rerouting, however, increase turnaround time and require more cargo vehicles.

Use of Army aviation assets for resupply of forward areas increases on a contaminated battlefield because of the increased need for dispersion. This is based on METT-T. Resupply by air is often more effective than ground means. Aviation personnel are capable of flying over obstacles and contaminated areas. An additional mission of all aircraft is medical evacuation. Personnel prepare assets to perform that mission when medical evacuation assets are overloaded during mass casualty situations. Contamination avoidance for transportation is the same as that for supply.

### Maintenance

Avoiding contamination of equipment is easier than decontaminating it. Decontamination is time consuming. It also causes corrosion and damage to some types of equipment. Providing overhead cover for equipment and supplies significantly reduces liquid contamination of such material.

Petroleum products trap chemical contamination. They collect in bolt threads, hydraulic fluids, and closed assemblies. Hence, a vehicle may be safe to drive without MOPP 4 but not be safe to repair. Also, since oil, grease, and dirt degrade the effectiveness of chemical overgarments, mechanics keep as clean as possible. Wet weather gear helps but causes heat buildup. As much as possible, maintenance company elements operate in protected areas like underground garages and concrete buildings.

Using units decontaminate their own equipment within their capabilities. Equipment turned over to maintenance personnel should be as free of contamination as the using unit can make it. When using units cannot decontaminate equipment, they mark the equipment with the type and the date/time of contamination. If possible, they mark the specific areas of equipment contamination to alert maintenance personnel of the danger. They also segregate contaminated material.

Sometimes using units cannot decontaminate damaged or inoperable equipment that is critical to the battle. Maintenance personnel prepare to repair it at a contaminated MCP. Use of a contaminated MCP limits contamination and combines contaminated repair assets. It also extends repair times and contaminates previously uncontaminated tools, test equipment, and repair parts. A contaminated MCP is similar to a hasty decontamination site. It is far enough forward to limit the spread of contamination, yet far enough back to buy time for MOPP IV-clad mechanics.

FM 43-12 has more on NBC maintenance operations.

### Health Service Support

The NBC environment taxes available health service support assets due to —

- Mass casualties.
- Loss of medical personnel, facilities, and equipment and supplies.
- Contamination of medical personnel, facilities, and equipment and supplies.
- Necessity for using MOPP.

The NBC environment requires augmentation of medical personnel, facilities, equipment, and supplies. If medical personnel anticipate an NBC environment, they coordinate for medical augmentation before the operation.

When the separate brigade commander plans an operation, the brigade surgeon reviews current health and radiation exposure status of units involved. He also reviews the exposure predicted in the commander's plan.

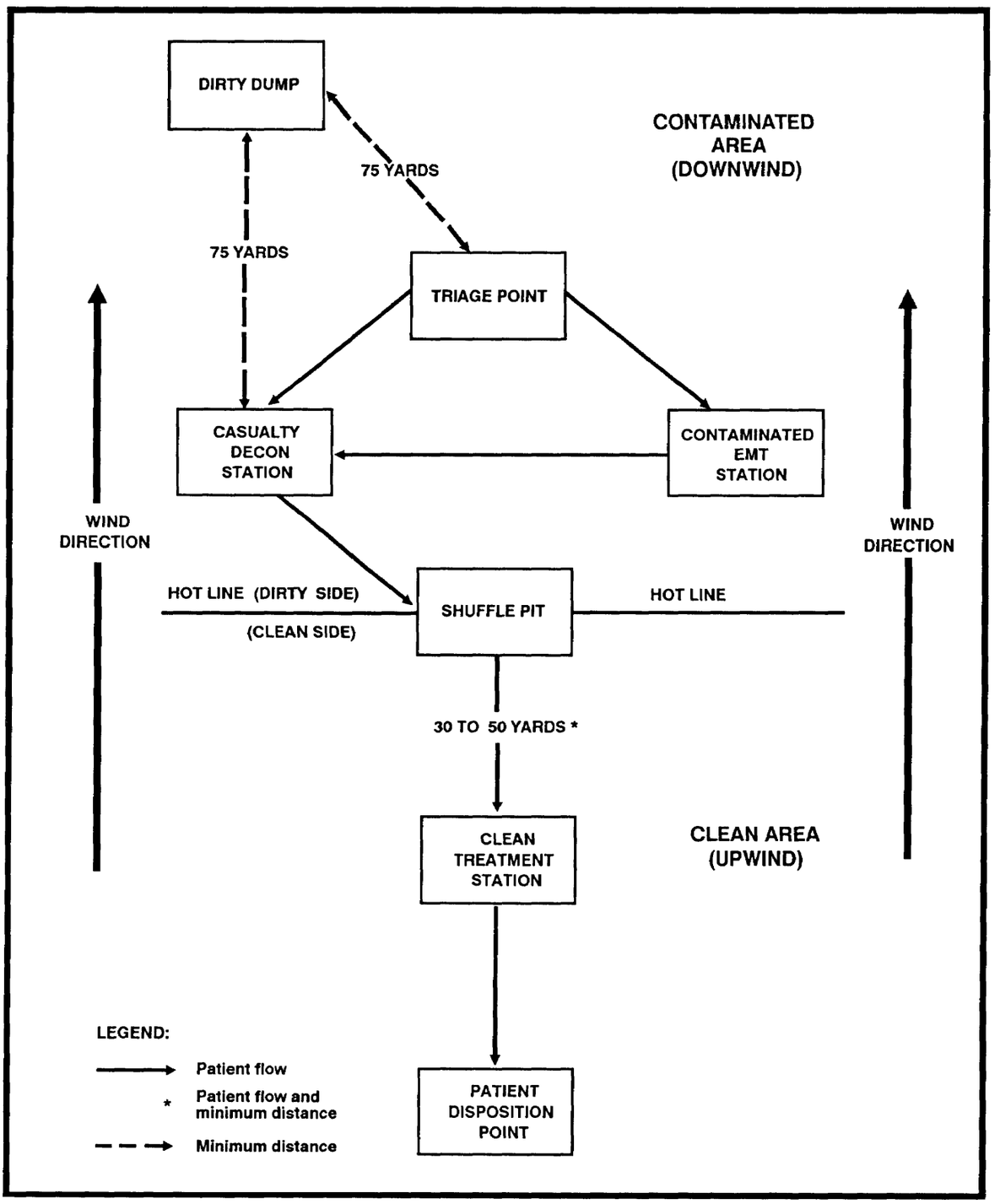


**Figure 2-1. Layout of a chemical agent patient decontamination station, in an uncontaminated area, without collective protective shelter.**

The brigade surgeon gives the commander general estimates of the–

- Reduction in effectiveness of personnel due to exposure to radiation.
- Number and time-phasing of casualties that may occur.
- Resulting medical work load and the requirements for medical units to perform it.

Contamination is one of the major problems in providing HSS in an NBC environment. Medical units take necessary action to avoid contamination and lessen the initial effects of nuclear weapons. They protect medical supplies and equipment from contamination with chemical agent resistant coatings or protective coverings. They disperse Class VIII stocks to prevent or reduce damage caused by NBC weapons. They decontaminate contaminated items before issue to using units. Personnel do not normally issue contaminated stocks. Until fully decontaminated, they are segregated from clean stock.

Each physically capable individual carries out required decontamination of himself and his equipment as soon as possible. Personnel set up conveniently located decontamination stations at MTFs. (See Figure 2-l.) Medical personnel decontaminate patients before evacuation by aircraft or ground vehicles. Medical units only decontaminate patients who have reached MTFs and are unable to perform self-aid. If MTFs have to decontaminate patients, decontamination support is essential. Without it, a significant degradation of HSS results if treatment and evacuation personnel have to man decontamination stations.

Personnel do not admit patients to MTFs in contaminated clothing or blankets. Occasionally, a contaminated patient requires immediate treatment. No decontamination procedure should prevent lifesaving procedures. HSS personnel treat a contaminated patient in the contaminated treatment area. See FMs 8-285 and 8-10-4 for treatment of chemical patients. Other detailed doctrine on medical operations in NBC conditions appears in TM 8-215 and FM 8-9.

Personnel base treatment and evacuation of NBC patients on manifested signs and symptoms. SOPs govern the use of prophylactic measures following known or suspected biological or chemical agent attack. Following a nuclear attack, individuals who suspect radiation injury may reach the MTF seeking medical attention. Suspected nuclear radiation injury alone, without specific symptoms and physical signs, does not justify evacuation. Ordinarily, in nuclear and conventional warfare, burns and traumatic injury are the basis for early medical care and evacuation.

### Field Services

In an NBC environment, each unit recovers its remains. Recovery teams handle all remains within a contaminated or suspected contaminated area as if they are contaminated. Recovery teams take adequate precautions when handling these remains. Team members attach NBC tags to remains contaminated by NBC agents. Remains that are contaminated by biological agents may also be contagious. If this is the case, team members attach to the remains a standard paper tag with the word “Contagious.” Personnel solely base the decision to evacuate remains from a contaminated area on the ability to decontaminate the remains and personal effects. If team members cannot decontaminate remains and personal effects, they are buried at the recovery site using emergency burial. FM 10-63 has procedures for burying contaminated remains. If NBC personnel have time and assets, the remains and personal effects are decontaminated. After an NBC specialist clears and checks, the decontaminated remains and personal effects are evacuated to a collection point.

Commanders curtail renovation operations in an NBC environment in favor of higher priority missions. In addition, they curtail laundry service in an active NBC environment except clothing decontamination and support of critical functions such as HSS.