ATP 5-19

Risk Management

APRIL 2014

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Headquarters, Department of the Army

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Washington, DC, 8 September 2014

Risk Management

1. This change replaces DD Form 2977 (Deliberate Risk Assessment Worksheet).
2. ATP 5-19, 14 April 2014 is changed as follows:

Remove Old Pages	Insert New Pages
Pages i through ii	Pages i through ii
Pages 1-7 through 1-8	Pages 1-7 through 1-8
Pages A-1 through A-10	Pages A-1 through A-13

4. File this transmittal sheet in front of the publication for reference purposes.

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Risk Management

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Preface

ATP 5-19 provides doctrinal guidance on managing risk within the conduct of operations. Administrative risk management (RM) guidance and techniques are in DA Pam 385-30. These two documents are designed to be complimentary, and in tandem, they provide guidance on the implementation of RM throughout the Army.

The principal audience for ATP 5-19 is all members of the profession of arms. Commanders, staffs, leaders, Army civilians, and individual Soldiers throughout the Army will use this publication. Commanders and staffs of Army headquarters serving as joint task force or multinational headquarters should also refer to applicable joint or multinational doctrine concerning the range of military operations and joint or multinational forces. Trainers and educators throughout the Army will also use this publication.

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

AR 385-10 implements compliance with appropriate federal law and Department of Defense instructions. It provides administrative policy on Army safety management procedures. The proponent of ATP 5-19 has made every effort to keep this doctrine consistent with AR 385-10 and all appropriate laws, regulations, instructions, and policies. Where Army doctrine differs, the laws, regulations, instructions, and policies take precedence.

ATP 5-19 uses joint terms where applicable. Selected joint and Army terms and definitions appear in both the glossary and the text. Terms for which ATP 5-19 is the proponent publication (the authority) are marked with an asterisk (*) in the glossary. Definitions for which ATP 5-19 is the proponent publication are boldfaced in the text. For other definitions shown in the text, the term is italicized and the number of the proponent publication follows the definition.

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

The proponent and preparing agency for ATP 5-19 is the United States Army Training and Doctrine Command. Send comments and recommendations on a DA Form 2028 *(Recommended Changes to Publications and Blank Forms*) to Commander, U.S. Army Training and Doctrine Command, ATTN: ATCS-S (ATP 5-19), 950 Jefferson Avenue, Fort Eustis, VA 23604-5700; by e-mail to usarmy.jble.tradoc.mbx.hq-tradoc-g-1-4-safety-office@mail.mil or submit an electronic DA Form 2028.

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Introduction

In April 1998, FM 100-14 (now obsolete) introduced to the Army the first doctrinal publication on managing risk. It detailed the application of a step-by-step process that would conserve combat power and resources. In 2006, FM 5-19 (now obsolete) was released. This milestone publication improved and expanded the doctrine to provide clear standards and guidance on how to apply the process for managing risk. The process, then renamed *composite risk management,* was broadened to encompass all operations and activities, on- and off-duty. ATP 5-19 retains the holistic approach that focuses on the composite risks from all sources, rather than the traditional practice of separating accidents from tactical hazards and associated risks. With this ATP, the holistic approach is better integrated into the Army's decisionmaking processes. Integration and education are mandated throughout the Soldier and Army civilian's career. The Army, as well as the other Services, has adopted the term risk management (RM) to align with joint terminology. The five steps of RM—identify the hazards, assess the hazards, develop controls and make risk decisions, implement controls, and supervise and evaluate—are used across the Services to help them operate as a joint force.

RM must be embedded in Army culture. Integrating RM into *how we think* is crucial to maintaining combat power and ensuring efficient mission accomplishment. Proper use of this publication will support standardization and institutionalization of techniques, tools, and procedures that lead to sound decisionmaking and valid risk acceptance by Army leaders at all levels. An *Army leader* is anyone who by virtue of assumed role or assigned responsibility inspires and influences people to accomplish organizational goals. Army leaders motivate people both inside and outside the chain of command to pursue actions, focus thinking and shape decisions for the greater good of the organization (ADP 6-22). Engaged Army leaders are critical to successful RM.

The Army's overarching framework for exercising mission command is the *operations process*—the major mission command activities performed during operations: planning, preparing, executing, and continuously assessing the operation (ADP 5-0). Throughout the operations process, commanders and staffs integrate the warfighting functions to synchronize the force in accordance with the commander's intent and concept of operations. Commanders and staffs use several integrating processes and continuing activities to do this. RM is an integrating process. Army leaders first need to understand how RM generally fits into the operations process. The operations process frames understanding of how RM is integrated with the more complex decisionmaking processes. The five steps of RM follow a logical sequence that correlates with the operations process activities (see introductory table-1). Steps 1 and 2 of RM normally have greatest emphasis in the planning activity. Step 3 normally begins in planning and continues throughout the preparing activity. The majority of step 4 normally occurs within the preparing and executing activities, with some continuing emphasis in planning. Step 5 normally occurs during executing with some continuing emphasis in planning. The assessment activity of the operations process is continuous. While the depiction in introductory table-1 is in a bar format, both processes are cyclical, fluid, and dynamic. Activities and steps can overlap or be revisited during any operation.

Introductory table-1. Risk management in the operations process

Risk management steps	***Operations process activities***	
Step 1–Identify the hazards	Planning	Assessing
Step 2–Assess the hazards	Planning	
Step 3–Develop controls and make risk decisions	Planning and preparing	
Step 4–Implement controls	Planning, preparing, and executing	
Step 5–Supervise and evaluate	Planning and executing	

Mission command is the exercise of authority and direction by the commander using mission orders to enable disciplined initiative within the commander's intent to empower agile and adaptive leaders in the conduct of unified land operations (ADP 6-0). The *mission command warfighting function* is the related tasks and systems that develop and integrate those activities enabling a commander to balance the art of command and the science of control in order to integrate the other warfighting functions (ADRP 3-0). Both the mission command warfighting function and mission command philosophy encompass and support RM. RM is an invaluable tool for commanders and staff. It provides a systematic and standardized process to identify hazards and react to changes within an operational environment.

All staff elements incorporate RM into their running estimates and provide recommendations for controls to mitigate risk within their areas of expertise. RM integration during the operations process activities is the primary responsibility of the unit's protection officer or the operations officer. The commander has overall responsibility for RM integration and is the risk acceptance authority.

This ATP emphasizes techniques for planning because a significant portion of RM must occur in the planning activity. During planning, commanders, leaders, and individuals identify potential hazards and assess their likely impact. Steps 1 and 2 of RM—identifying and assessing hazards—provide a structure to enhance situational understanding and support developing sound courses of action and plans. Then, planners can state how forces will accomplish a mission within a predetermined level of risk. Making optimal use of planning time is essential for effective RM. The more thorough the planning, the more contingencies can be ready for implementation. During preparation, leaders balance the risks (such as readiness, political, economic, and environmental risks) against the costs of each course of action. At the same time, planners develop actions that mitigate risk (controls), and leaders make risk decisions to eliminate unnecessary risks. Commanders, leaders, and individuals should continually assess the risk level and effectiveness of controls throughout execution. They should supervise the risk-related activities for which they are responsible and monitor other activities directly affecting risk during operations. Any time or reason risk levels appear to rise or new hazards occur, commanders and leaders should be prepared to order adjustments to activities, including the actions that mitigate risk. Army leaders use continuous assessments to make adjustments. These cyclical processes support making adjustments where and when needed. RM practitioners capture lessons learned to benefit current and future operations.

This ATP focuses on the application of RM to troop leading procedures and the military decisionmaking process. Chapter 1 emphasizes principles, levels, and steps of RM applicable to both. Chapter 2 outlines general RM responsibilities of Army organizations, leaders, Soldiers, and Army civilians. Chapter 3 explains RM techniques in the context of troop leading procedures. Chapter 4 explains RM techniques in the context of the military decisionmaking process. An appendix illustrates the use of DD Form 2977 (*Deliberate Risk Assessment Worksheet*).

This is a complete revision of FM 5-19 (now obsolete). There have been many changes throughout the publication. Major changes include—

- Rescission of the term *composite risk management.*
- Adoption of *risk management* as the name of the process for managing risk.
- Introduction of DD Form 2977 and rescission of DA Form 7566 (*Composite Risk Management Worksheet*) (now obsolete).
- Establishment of four RM principles, rather than five.
- Alignment with the updated steps of the military decisionmaking process and troop leading procedures.
- Increased emphasis on evaluation during the fifth step of RM.
- The removal of chapters and examples covering nonoperational topics.

Introductory table-2 lists Army doctrinal terms formerly in FM 5-19 (now obsolete) and modified by ATP 5-19. Introductory table-3 lists the doctrinal term rescinded by this ATP.

Introductory table-2. Modified Army terms

Modified Army terms	*Remarks*
control	Formerly defined as *controls*.
exposure	Slightly modified definition.
probability	Slightly modified definition.
risk decision	Slightly modified definition.
risk tolerance	Slightly modified definition.
severity	Slightly modified definition.
accident risk	Used based on plain English; not a defined term.
level of risk	Used based on plain English; not a defined term.
residual risk	Used based on plain English; not a defined term.
tactical risk	Used based on plain English; not a defined term.

Introductory table-3. Rescinded Army terms

Rescinded Army term	*Remarks*
composite risk management	Replaced by joint term *risk management*.

Unless specified otherwise, any mention of leaders refers to Army leaders. To avoid wordiness, the phrase RM practitioners is used to encompass all individuals and organizations that use RM. This publication uses the term operations to refer any type of military action or event, including operational, tactical, service, training, or administrative military missions.

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Chapter 1
Foundations of Risk Management

This chapter begins by introducing principles of risk management. It continues with a discussion of the levels of risk management and then concludes with the steps of risk management.

PRINCIPLES OF RISK MANAGEMENT

1-1. *Risk management* is the process of identifying, assessing, and controlling risks arising from operational factors and making decisions that balance risk cost with mission benefits (JP 3-0). The Army uses risk management (RM) to help maintain combat power while ensuring mission accomplishment in current and future operations. RM applies to operations and to nonoperational activities.

Note. For more information on RM application to nonoperational activities, see DA Pam 385-30.

1-2. RM is the Army's process for helping organizations and individuals make informed decisions to reduce or offset risk. Using this process increases operational effectiveness and the probability of mission accomplishment. It is a systematic way of identifying hazards, assessing them, and managing the associated risks. While safety-related, RM is not contained solely within the protection warfighting function. Commanders, staffs, Army leaders, Soldiers, and Army civilians integrate RM into all planning, preparing, executing, and assessing of operations. The process applies to all types of operations, tasks, and activities. Commanders ensure first-line supervisors apply the process, where it has the greatest impact. Individuals should also use the process for off-duty activities.

1-3. RM outlines a disciplined approach to express a risk level in terms readily understood at all echelons. Except in time-constrained situations, planners complete the process in a deliberate manner—systematically applying all the steps and recording the results on the prescribed form (see appendix A). Organizations develop data and use charts, codes, and numbers to analyze probability and standardize the analysis of risk. They use this standardization to manage risk in a logical and controlled manner over time. However, the five-step process is compatible with intuitive and experience-based decisionmaking. In time-constrained conditions, commanders, staffs, leaders, Soldiers, and civilians use judgment to apply RM steps and principles.

1-4. The principles of RM are—

- Integrate RM into all phases of missions and operations.
- Make risk decisions at the appropriate level.
- Accept no unnecessary risk.
- Apply RM cyclically and continuously.

INTEGRATE RISK MANAGEMENT INTO ALL PHASES OF MISSIONS AND OPERATIONS

1-5. Army forces must integrate RM throughout planning, preparation, execution, and assessment activities. Army units should use RM for on- and off-duty activities. Commanders must emphasize RM in planning processes; they must dedicate sufficient time and other resources to RM during planning to ensure Army forces manage risk effectively throughout all phases of missions and operations.

MAKE RISK DECISIONS AT THE APPROPRIATE LEVEL

1-6. **A *risk decision* is a commander, leader, or individual's determination to accept or not accept the risk(s) associated with an action he or she will take or will direct others to take.** RM is only

effective when the specific information about hazards and risks is passed to the appropriate level of command for a risk decision. Subordinates must pass specific risk information up the chain of command. Conversely, the higher command must provide subordinates making risk decisions or implementing controls with the established ***risk tolerance*—the level of risk the responsible commander is willing to accept.** RM application must be inclusive; those executing an operation and those directing it participate in an integrated process.

1-7. In the context of RM, a ***control* is an action taken to eliminate a hazard or to reduce its risk.** If a commander, Army leader, or any individual responsible for executing a task determines that the controls available will not reduce risk to a level within the risk tolerance, that person must elevate the risk decision to the next level in the chain of command. The approval authority should have the resources to implement the controls and the authority to make the risk decision. Commanders disseminate the policy that establishes clear approval authority for risk decisionmaking, whether it is based on a command risk policy, an Army or local regulation, or another source. Commanders establish local policies and regulations if appropriate.

ACCEPT NO UNNECESSARY RISK

1-8. An unnecessary risk is any risk that, if taken, will not contribute meaningfully to mission accomplishment or will needlessly endanger lives or resources. Army leaders accept only a level of risk in which the potential benefit outweighs the potential loss. The process of weighing risks against opportunities and benefits helps to maximize unit capability, save lives, and preserve resources. The appropriate level of command makes prudent risk decisions after applying RM and weighing potential gain against potential loss. Commanders need not be risk averse. Forces may undertake even high-risk endeavors when commanders determine that the sum of the benefits exceeds the sum of the costs. Commanders establish the basis for prudent risk decisions through RM.

APPLY RISK MANAGEMENT CYCLICALLY AND CONTINUOUSLY

1-9. RM is a cyclical and continuous five-step process, applied across all Army operations (including training), individual and collective day-to-day activities and events, and base operations functions. Soldiers use this cyclical process (illustrated in figure 1-1) to identify and assess hazards; develop, choose, implement, and supervise controls; and evaluate outcomes as conditions change.

APPLICATION LEVELS OF RISK MANAGEMENT

1-10. Army leaders use judgment to manage risk based on the situation. They approach RM at the appropriate application level, using a deliberate approach or a real-time approach. The main factor that differentiates their approach is the amount of time available for planning. A deliberate approach is more analytical but takes more time; a real-time approach is more intuitive and tends to take less time. Regardless of the amount of time available, Army forces manage risk throughout the operations process using the five steps of RM.

DELIBERATE RISK MANAGEMENT

1-11. Deliberate RM refers to situations in which ample time is available to apply the five-step process as part of detailed planning for an operation. At this level, experienced commanders, staff, Army leaders, and individuals apply RM steps and principles analytically. Deliberate RM is most effective when done in a group. The joint operation planning process illustrates ways to integrate RM into planning at the deliberate application level (see JP 5-0 for more information on joint operation planning). Other examples of deliberate RM include integrated planning of unit missions, tasks, or events; review of standard operating, maintenance, or training procedures; recreational activities; and the development of damage control and emergency response plans. The discussion in this chapter emphasizes deliberate RM.

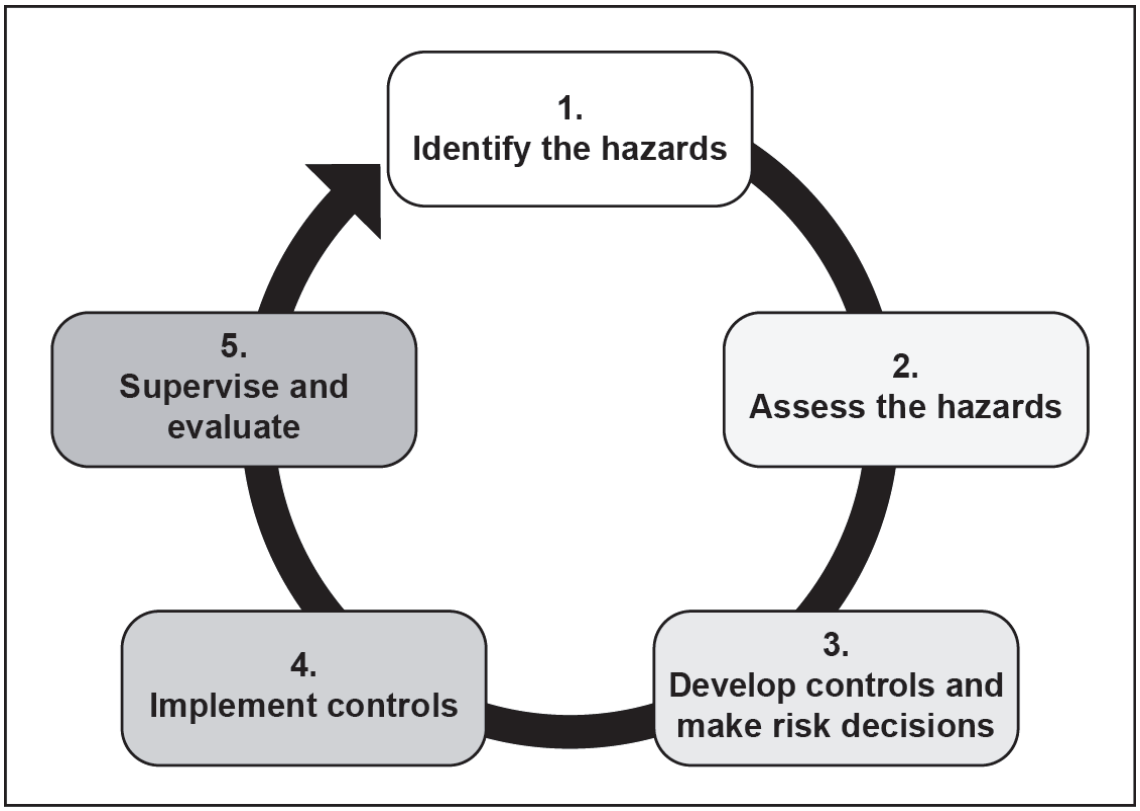

Figure 1-1. A cyclical, continuous process for managing risk

REAL-TIME RISK MANAGEMENT

1-12. Army forces plan for all anticipated risks, but during execution, new risks can arise unexpectedly. Real-time RM refers to immediate management of hazards as they occur, usually during execution of an operation or performance of a task. In time-constrained conditions, intuitive decisionmaking tends to replace deliberate planning. Soldiers may only have time for a quick mental or verbal assessment of the new or changing situation. Real-time RM and deliberate RM have the same foundation. Leaders must master the principles and steps of RM. They must practice applying them during planning and execution in time-constrained situations so real-time RM becomes second nature.

STEPS OF RISK MANAGEMENT

1-13. The five steps of RM are—

- Step 1–Identify the hazards.
- Step 2–Assess the hazards.
- Step 3–Develop controls and make risk decisions.
- Step 4–Implement controls.
- Step 5–Supervise and evaluate.

Steps 1 and 2 of RM are assessment steps—*risk assessment* is the identification and assessment of hazards (first two steps of risk management process) (JP 3-07.2). Steps 3 through 5 of RM are management steps (see figure 1-2, page 1-4). The goal of the entire process is managing risk. However, to manage risk, Soldiers must first identify and assess hazards. It is preferable to divide complex missions into subtasks and then identify and assess hazards and manage risk for each subtask.

1-14. All members of the Army profession apply the steps of RM: commanders and staffs, Army leaders, Soldiers, and civilians. This text adopts the phrase RM practitioners to include all individuals and

organizations that use RM to mitigate or eliminate risk. RM practitioners need not be highly trained in RM or safety to apply these steps.

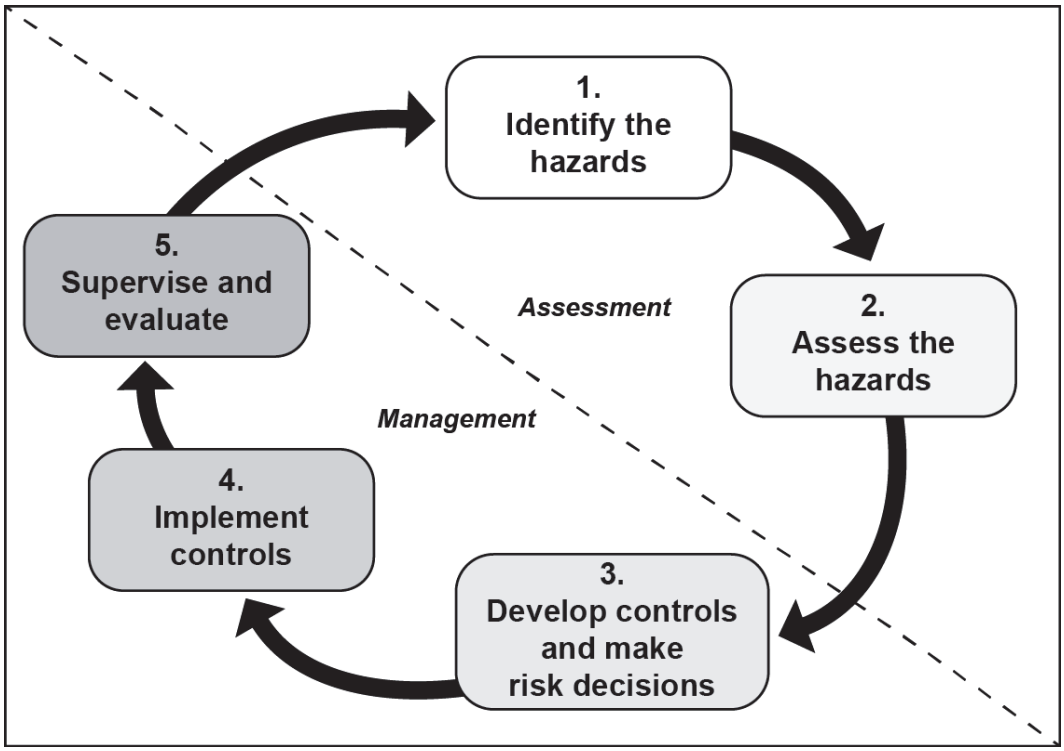

Figure 1-2. Assessment steps and management steps

STEP 1—IDENTIFY THE HAZARDS

1-15. A *hazard* is a condition with the potential to cause injury, illness, or death of personnel; damage to or loss of equipment or property; or mission degradation (JP 3-33). Hazards create the potential for harmful events that can cause degradation of capabilities or mission failure. Hazards lead to risk whenever people interact with equipment or their environment. Hazards exist in all types of environments and activities—including combat, stability, base support, training, garrison activities, and off-duty activities. An approach to identifying a hazard is to consider how the condition can lead to a sequence of specific events or an accident-loss scenario.

1-16. An accident-loss scenario consists of three elements—source, mechanism, and outcome—that expand on the description of the hazard. The source or cause is a condition (such as a wet roadway) that is a prerequisite to a mishap. The mechanism, or effect, is how the source manifests itself (such as by a vehicle hydroplaning). The outcome, or undesired event, is the result of the mechanism occurring due to the source being present (such as the vehicle leaving the roadway and striking a tree). To determine original hazard (sometimes known as the root hazard or root cause), RM practitioners consider system inadequacies in areas such as support, standards, and training, or leadership and individual failures. To illustrate, tripping is not considered a hazard because another condition or circumstance caused it. To identify the hazard, the RM practitioner must ask why a person would trip in a certain location. Repeated questioning should lead to the logical answer. When there is no longer a logical answer to the question, the original hazard has been identified.

1-17. The mission variables—mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC)—serve as a standard format for identifying hazards, on- or off-duty. The factors of METT-TC are institutionalized in the Army. They are part of the common knowledge imparted through the Army's professional military education and the civilian education system. Some other resources and tools support the identification of hazards include—

- Experience and other experts.
- Regulations, manuals, standard operating procedures (SOPs), and policies.
- Accident data.
- War-gaming what-if scenarios.
- Data from risk assessment matrixes.
- Readiness assessments.
- Cause and effect diagrams.
- Change analysis.
- Energy trace and barrier analysis.
- Logic diagrams.
- Mapping techniques.
- Training assessments.
- After action reviews (AARs).

1-18. The mission variables, also called the factors of METT-TC, are used primarily as part of the military decisionmaking process (MDMP) or troop leading procedures (TLP) for planning operations. In addition, they provide a pattern for addressing threat- and accident-based risk for any activities, on- or off-duty.

Mission

1-19. The nature of the mission may imply specific hazards and risks. Some missions are inherently more dangerous. Army leaders look for hazards associated with the complexity of plans and orders from higher headquarters, such as a particularly complex scheme of maneuver. The use of a fragmentary order in lieu of a detailed operation order or operation plan may also increase risk due to the possibility of misunderstanding mission guidance. Hazardous off-duty activities may include sporting or recreational activities or various means of travel. Junior leaders have a particularly important role in making assessments that address the behavior of individuals under their supervision.

Enemy

1-20. Commanders look for enemy presence or capabilities that pose hazards and risks to operations. They ask what the enemy or outside influences could do to defeat or spoil an operation. Information collection is a dynamic staff process that is critical to identifying enemy threats. Information collection supports threat-based risk assessments by identifying opportunities and any constraints the operational environment offers to both enemy and friendly forces. It also portrays a picture of enemy capabilities and vulnerabilities.

Terrain and Weather

1-21. Whether planning an operation or taking leave outside of the local area, Army leaders should include the aspect of terrain. The factors of observation and fields of fire, avenues of approach, key and decisive terrain, obstacles, and cover and concealment are used to identify and assess hazards affecting operations. Pre-trip and pre-combat inspection checklists are useful in making assessments associated with activities before executing an operation or performing a task. Common terrain hazards are elevation, altitude, road size and surfaces, curves, grades, and traffic density.

1-22. Weather can also create specific hazards and risks. Common weather hazards are cold, ice, snow, rain, fog, heat, humidity, wind, dust, visibility, and illumination. Army leaders and individuals assess these factors for activities both on- and off-duty.

Troops and Equipment

1-23. When assessing risk during operations, the variable *troops* is used to identify hazards and risks associated with the level of training, staffing, and equipment maintenance and condition. This factor also includes hazards related to morale, availability of supplies, and services. Moreover, it includes hazards related to the physical and emotional health of each individual.

1-24. For identifying hazards during activities not part of operations, the troops variable can include Soldiers, their dependents, Army civilians, and other people inside or outside the activity. Examples of hazards include intoxicated drivers, sexual assault, domestic violence, substance abuse, sexually transmitted diseases, and other behavioral or medical factors that could affect mission readiness.

Time

1-25. To avoid or mitigate the hazards and risks associated with limited time for planning, commanders should allow subordinate commands two-thirds of the available planning time. Subordinate commands need adequate planning and preparation time to develop and implement controls. Insufficient time for planning or preparation may lead to accepting greater risk. (For activities not directly related to operations, insufficient planning or preparation time usually results from haste rather than availability.)

Civil Considerations

1-26. The variable *civil considerations* expands the consideration of hazards and risks to include those that a tactical task may pose to the civilian populace and noncombatants in the operational area. It includes the critical requirement to protect civilians. The objective is to reduce collateral damage to civilians and noncombatants. In addition, the presence of a large civilian population and its day-to-day activities create hazards during operations. High civilian traffic densities may present hazards to convoys and maneuver schemes. Moreover, planners must assess such diverse elements as insurgents, riots, and criminal activity. Legal, regulatory, or policy considerations may introduce hazards that affect operations and other activities. Commanders and staffs also must weigh the importance of protecting civilians from violence during operations.

STEP 2—ASSESS THE HAZARDS

1-27. To assess hazards, RM practitioners consider how identified hazards (conditions) could lead to harmful events and how those events would affect operations. They envision the potential for the events and their predictable effects. When hazards are assessed and risk levels are assigned, the resulting analysis is a measurement of *risk*—probability and severity of loss linked to hazards (JP 5-0). Risk levels reflect a combination of the probability of occurrence and the severity of the adverse impact. Probability and severity are independent measures of hazards. In other words, estimating probability has no direct relationship to estimating severity.

Probability and Severity Defined

1-28. In the context of RM, ***probability*** is **the likelihood an event will occur; it is assessed as frequent, likely, occasional, seldom, or unlikely.** In the context of RM, ***severity*** is **the expected consequences of an event in terms of injury, property damage, or other mission-impairing factors; it is assessed as catastrophic, critical, moderate, or negligible.** A risk level is a type of score that assesses the odds (probability) of something going wrong and the effect (severity) of the incident when it occurs.

Risk Levels

1-29. Planners assess hazards (the conditions and the events that could result)—and assign associated risk levels—during mission analysis; course of action (COA) development; COA analysis; and orders production, dissemination, and transition steps of the MDMP. Commanders and staff must consider aspects directly or indirectly related to the mission that could affect risk during operations. The result of this assessment is an initial estimate of a risk level for each identified hazard, expressed as—

- Extremely high (EH).
- High (H).
- Medium (M).
- Low (L).

Planners determine the level of risk by using the risk assessment matrix (illustrated in table 1-1).

1-30. Planners apply three substeps in step 2, using the risk assessment matrix:

- Estimate the probability of a harmful event or occurrence from a hazard.
- Estimate the expected severity of an event or occurrence.
- Determine the level of risk for the estimated probability and severity.

Table 1-1. Risk assessment matrix

Risk Assessment Matrix		Probability *(expected frequency)*				
		Frequent: Continuous, regular, or inevitable occurrences	**Likely:** Several or numerous occurrences	**Occasional:** Sporadic or intermittent occurrences	**Seldom:** Infrequent occurrences	**Unlikely:** Possible occurrences but improbable
Severity *(expected consequence)*		A	B	C	D	E
Catastrophic: *Mission failure, unit readiness eliminated; death, unacceptable loss or damage*	I	EH	EH	H	H	M
Critical: *Significantly degraded unit readiness or mission capability; severe injury, illness, loss or damage*	II	EH	H	H	M	L
Moderate: *Somewhat degraded unit readiness or mission capability; minor injury, illness, loss, or damage*	III	H	M	M	L	L
Negligible: *Little or no impact to unit readiness or mission capability; minimal injury, loss, or damage*	IV	M	L	L	L	L
Legend: EH - Extremely High Risk H - High Risk M - Medium Risk L - Low Risk						

First Substep of Step 2—Estimate the Probability of an Occurrence

1-31. Probability is an estimate, based on the information known about the hazard and on the hazard-related occurrences experienced by others in similar situations. The RM practitioner estimates the probability levels of harmful events occurring for each hazard, taking into account all relevant factors—including the mission, scheme of maneuver, and frequency of similar occurrences. Probability estimates take into account the current situation and previous similar situations. For the purpose of RM, the five levels of probability are—

- Frequent (A).
- Likely (B).
- Occasional (C).
- Seldom (D).
- Unlikely (E).

Frequent

1-32. Probability is assessed as frequent if a harmful occurrence is known to happen continuously, regularly, or inevitably because of exposure. ***Exposure* is the frequency and length of time personnel and equipment are subjected to a hazard or hazards**. For example, given about 500 exposures, without proper controls, a harmful event will occur. Increased exposure—during a certain activity or over iterations of the activity—increases risk. An example of frequent occurrence is a heat injury during a battalion physical training run, with a category 5 heat index and nonacclimated Soldiers.

Likely

1-33. Probability is assessed as likely if a harmful occurrence is expected to happen several or numerous times—the event commonly happens because of exposure. For example, given about 1,000 exposures, without proper controls, the harmful event will occur at some point. Examples include detonation of improvised explosive devices, wire strikes for aircraft, controlled flights into terrain, and unintentional weapons discharges.

Occasional

1-34. Probability is assessed as occasional if a harmful occurrence is expected to happen sporadically or intermittently because of exposure—the event is neither common nor uncommon. A unit may or may not complete a deployment without the harmful event happening. Examples include unexploded ordnance detonation and *fratricide*—the unintentional killing or wounding of friendly or neutral personnel by friendly firepower (ADRP 3-37).

Seldom

1-35. Probability is assessed as seldom when a harmful occurrence resulting from exposure is infrequent—the event is remotely possible and could occur at some time. Usually, several things must go wrong at once for the harmful event to happen. Examples include heat-related death in a temperate environment or electrocution by low voltage.

Unlikely

1-36. Probability is assessed as unlikely if a harmful occurrence resulting from exposure is possible but improbable. Planners assume it will not occur, but the occurrence is not impossible. Examples might include detonation of containerized ammunition during transport.

Second Substep of Step 2—Estimate the Expected Severity of an Occurrence

1-37. A severity level is a prediction of the effects of a harmful event on combat power, mission capability, or readiness. The severity level does not consider probability; severity is an estimate of the loss that would follow the envisioned event. The RM practitioner estimates the level of severity for each anticipated occurrence based on knowledge of the results of similar past occurrences. For the purpose of RM, severity is assessed at one of four levels:

- Catastrophic (I).
- Critical (II).
- Moderate (III).
- Negligible (IV).

Catastrophic

1-38. Severity is estimated as catastrophic when consequences of an event, if it occurs, are expected to include death, unacceptable loss or damage, mission failure, or the loss of unit readiness.

Critical

1-39. Severity is estimated as critical if the consequences of an event, if it occurs, are expected to include severe injury, illness, loss, or damage; significantly degraded unit readiness; or significantly degraded mission capability.

Moderate

1-40. Severity is estimated as moderate if the consequences of an event, if it occurs, are expected to include minor injury, illness, loss, or damage; degraded unit readiness; or degraded mission capability.

Negligible

1-41. Severity is estimated as negligible if the consequences of an event are expected to include minimal injury, loss, or damage; little or no impact to unit readiness; or little or no impact to mission capability. (Table 1-2 summarizes examples of catastrophic, critical, moderate, and negligible severity.)

Table 1-2. Levels of severity and examples of consequences

Level	*Sample consequences*
I Catastrophic	• Complete mission failure or the loss of ability to accomplish a mission. • Death or permanent total disability. • Loss of major or mission-critical systems or equipment. • Major property or facility damage. • Severe environmental damage. • Unacceptable collateral damage.
II Critical	• Significantly degraded mission capability or unit readiness. • Permanent partial disability or hospitalization of at least 3 personnel. • Extensive major damage to equipment or systems. • Significant damage to property or the environment. • Significant collateral damage.
III Moderate	• Degraded mission capability or unit readiness. • Minor damage to equipment or systems, property, or the environment. • Lost days due to injury or illness.
IV Negligible	• Minimal injury or damage. • Little or no impact to mission or unit readiness. • First aid or minor medical treatment. • Little or no property or environmental damage.

Third Substep of Step 2—Determine the Level of Risk

1-42. After identifying and analyzing hazards, RM practitioners determine the level of risk for each hazard. Using the standard risk assessment matrix (table 1-1, page 1-7), practitioners assess the level of risk as extremely high, high, medium, or low. To make this determination, they combine probability and severity levels estimated for each hazard. The vertical axis on the left side of the risk assessment matrix (table 1-1) shows severity, with the Roman numerals I through IV representing severity levels. The horizontal axis across the top of the matrix shows probability, with the capital letters A through E representing probability levels. Where each Roman numeral and capital letter intersects, the combination correlates with one of the four levels of risk. The level of risk is not an absolute measure of the relative danger of a given operation, activity, or event. Moreover, considerations for determining the initial level of risk include effects beyond the immediate situation. The assessment of a level of risk in step 2 is an initial assessment; practitioners will revise the level of risk when they complete step 3.

Extremely High Risk

1-43. Extremely high risk refers to expected loss of ability to accomplish the mission if exposure occurs during operations. A determination of extremely high risk (sometimes recorded as EH) results from three possible combinations of probability and severity. The first combination assessed as extremely high risk is a probability estimate of frequent for an envisioned event that would have catastrophic consequences in terms of severity (IA). The next involves a probability estimate of likely for an event that would have catastrophic consequences (IB). The third combination is a probability estimate of frequent for an event expected to be of critical severity (IIA). For an assessment of extremely high risk, the consequences could extend beyond the current operation. When a risk is assessed as extremely high, practitioners carefully weigh the decision to continue against the potential gain from continuing the COA.

High Risk

1-44. High risk refers to significant degradation of mission capabilities in terms of the necessary standard, inability to accomplish all parts of the mission, or inability to complete the mission to standard if exposure occurs during operations. A determination of high risk (sometimes recorded as H) results from five possible combinations of probability and severity. The first two combinations assessed as high risk involve envisioned events for which the severity of the consequences would be catastrophic, and probability is estimated to be occasional (IC) or seldom (ID). The next two combinations involve events for which severity would be critical, and probability is estimated to be likely (IIB) or occasional (IIC). The final combination involves events expected to have moderately severe consequences, with a probability estimate of frequent (IIIA). An assessment of high risk implies that serious consequences will follow a hazardous event, if it occurs. Commanders carefully weigh the risk against the potential gain of the COA.

Medium Risk

1-45. Medium risk refers to the expectation of degraded mission capabilities in terms of the necessary standard and reduced mission capability if exposure occurs during operations. A determination of medium risk (sometimes recorded as M) results from five possible combinations of probability and severity. The first combination assessed as medium risk involves a probability estimate of unlikely for an event expected to have catastrophic consequences (IE). The second is a probability estimate of seldom for an event expected to have consequences of critical severity (IID). Additional combinations assessed as medium risk involve the expectation of moderately severe consequences for events with probability estimates of likely (IIIB) or occasional (IIIC). Finally, an event that would cause negligible loss with a probability estimate of frequent (IVA) is assessed as medium risk.

Low Risk

1-46. Low risk refers to expected losses that would have little or no impact on accomplishing the mission. A determination of low risk (sometimes recorded as L) results from seven possible combinations of probability and severity. The first combination assessed as low risk involves a probability estimate of unlikely for an event that would have consequences of critical severity (IIE). The next combinations are events expected to have consequences of moderate severity, with probability estimates of seldom (IIID) or unlikely (IIIE). Finally, events expected to have consequences of negligible severity, with probability estimates of likely or below (IVB, IVC, IVD, or IVE), are assessed as low risk. Either the event that would cause injury, damage, or illness is not expected, or losses would be minor and would have no long-term effect.

STEP 3—DEVELOP CONTROLS AND MAKE RISK DECISIONS

1-47. In step 3, RM practitioners develop and consider options for controls. During control development, they consider the mitigating effects of the proposed controls. They reassess the initial level of risk and determine a residual level of risk (risk after controls are implemented). RM practitioners continue developing control options, considering their mitigating effects, and reassessing risk until they have determined the most effective controls. The responsible commander at the appropriate echelon determines the risk tolerance for the situation. The responsible commander makes risk decisions—to accept or not accept the risk (see paragraph 1-6)—based on the residual risk level. For example, the controls, when

implemented, are expected to reduce the residual risk levels from medium to low or from high to medium. Commanders always must determine that the benefits of the action outweigh the potential cost.

First Substep of Step 3—Develop Controls

1-48. After assessing each hazard, Army leaders or individuals develop one or more controls that either eliminate the hazard or reduce the risk (probability and severity of loss) from a harmful occurrence. In developing controls, Army leaders must consider the reason for the hazard, not just the hazard in isolation. Controls can take many forms but normally fall into one of three categories:

- Educational controls.
- Physical controls.
- Hazard elimination controls.

Educational (Awareness) Controls

1-49. Educational controls are based on the knowledge and skills of units, organizations, or individuals. They include awareness of the hazard and control. Effective educational controls are implemented through individual and collective training that ensures performance to standard.

Physical Controls

1-50. Physical controls take the form of barriers and guards or signs to warn individuals, units, or organizations that a hazard exists. Special controller or oversight personnel also fall into this category.

Hazard Elimination Controls

1-51. Hazard elimination controls include positive actions to prevent exposure through substantial reduction or the total elimination of the hazard. The three methods of control implementation, in order of preference, are—

- Engineering.
- Administrative.
- Personal protective equipment (PPE).

1-52. The preferred method is to control the hazard at its source, through engineering. Engineering is preferable because, unlike other controls, it generally focuses on the individual who is exposed. The concept behind engineering controls is that, to the extent feasible, engineers or Army units design the equipment or work environment and the task to eliminate hazards or to reduce exposure.

1-53. If engineering cannot eliminate the hazard, units apply administrative measures aimed at reducing exposure. Examples include additional relief workers, exercise breaks, and rotation of workers. Normally, units use administrative controls in conjunction with others that more directly prevent exposure or control hazards.

1-54. When units cannot eliminate exposure during normal operations or maintenance work through engineering, and when safe work practices and other forms of administrative controls cannot provide sufficient protection, a supplementary method of controls is the use of PPE. PPE may also be appropriate for controlling hazards while units install engineering and administrative controls. Using PPE requires hazard awareness and training on the part of the user. Individuals must be aware that the equipment does not eliminate the hazard. If the equipment fails, exposure will occur. Individuals ensure equipment fits. They maintain equipment in a clean and serviceable condition to reduce the possibility of failure. They document the maintenance of PPE.

Criteria for Effective Controls

1-55. Effective controls meet the eight criteria of effectiveness (see descriptions in table 1-3):

- Feasibility.
- Acceptability.
- Suitability.
- Support.
- Explicitness.
- Standards.
- Training.
- Leadership.
- The individual.

Table 1-3. Criteria for effective controls

Criteria	*Descriptions*
Feasibility	The unit has the capability to implement the control.
Acceptability	The benefit gained by implementing the control justifies the cost in resources and time. The assessment of acceptability is largely subjective. Past experience, the commander's guidance, or other external restrictions influence the assessment.
Suitability	The control removes the hazard or mitigates (reduces) the residual risk to an acceptable level (determined by the responsible individual).
Support	Adequate personnel, equipment, supplies, and facilities necessary to implement the control are available.
Explicitness	The control clearly specifies who, what, where, when, why, and how each control will be used.
Standards	Guidance and procedures for implementing the control are clear, practical, and specific.
Training	Knowledge and skills of personnel are adequate to implement the control.
Leadership	Army leaders are ready, willing, and able to enforce standards necessary to implement the control.
The individual	Individual personnel are sufficiently self-disciplined and capable of implementing the control.

Sources of Controls

1-56. Examples of sources of identifying potential controls include personal experience; AARs; accident data from automated RM systems available through the United States Army Combat Readiness/Safety Center; SOPs; regulations; tactics, techniques, and procedures; and lessons learned from similar past operations can provide or identify possible controls for specific activities. RM worksheets from previous operations provide another source for selecting controls. Other sources for controls include the Center for Army Lessons Learned and safety program records of Army commands, Army Service component commands, and direct reporting units.

Examples of Controls

1-57. Whether conducting deliberate or hasty risk assessment, RM practitioners identify all essential aspects of controls precisely—including *who, what, when*, *where,* and *how*. Table 1-4 shows examples of preliminary documentation identifying who, what, when, where, and how for sample hazards and controls. RM practitioners completing DD Form 2977 must, at a minimum, document the *what, who*, and *how* aspects on the form.

Table 1-4. Examples of hazards and controls

Hazard	*Control*
Unsecured or unstable loads.	**Who:** Supervisors, Army leaders, drivers, operators. **What**: Ensure loads are secured in accordance with load plans and applicable manuals or publications. **Where:** In the assembly area. **When:** Before vehicle is allowed to leave. **How:** Emphasize cargo center of gravity, ammunition, and pyrotechnics.
Unsecured hatches or ramps.	**Who:** Supervisors, Army leaders, drivers, operators. **What:** Inspect and correct unsafe conditions. **Where:** In the assembly area or motor park. **When:** Before executing operations (during preparation). **How:** Secure with locking pin or latch devices.
Unsecured crew and passengers exposed during operations on rough terrain (tracked vehicles).	**Who:** Supervisors, Army leaders, drivers, operators. **What:** Position is no higher than nametag defilade unless engaging targets; all persons wear seatbelts or harnesses as appropriate; equipment is stowed and secured according to load plans. **Where:** In the assembly area or motor park. **When:** Before and during operations (preparation and execution). **How:** Spot-check vehicles and crews.
Improper passing.	**Who:** Supervisors, Army leaders, drivers, operators. **What:** Establish and enforce standards; train vehicle operations to pass other vehicles only at safe places and times while considering road visibility and traffic conditions. **Where:** In assembly areas and vehicle staging areas. **When:** Train operators and drivers before licensing; brief operators and drivers during preparation (before execution). **How:** Verify training and licensing of drivers and operators; enforce standards.
Improper ground guiding.	**Who:** Supervisors, Army leaders, drivers, operators, Soldiers. **What:** Establish and enforce standards for operation of vehicles in congested areas (bivouac sites, forward operating bases, maintenance areas, assembly areas and battle positions). **Where:** Assembly areas, motor parks. **When:** Before licensing drivers and operators; before deployments or exercises. **How:** Require use of ground guides while operating in limited visibility, backing vehicles, moving vehicles in bivouac, and conducting maintenance; and during assembly and battle positions.

Residual Level of Risk

1-58. After RM practitioners identify effective controls, they return to the risk assessment matrix (see table 1-1, page 1-7) to determine the residual level of risk for each hazard and the overall residual risk for the operation. They should continue analyzing the hazards and proposing options to reduce or eliminate them until they have identified the most effective controls (see criteria in table 1-3, page 1-12). The appropriate level of command must approve the mission, making a final risk decision based on the residual level of risk. Planners should sort hazards and controls under consideration according to residual risk, placing the highest-risk hazards first. This allows decisionmakers at the appropriate level of command to identify the highest-risk hazards easily. Decisionmakers should keep in mind that the residual level of risk is valid (true) only if forces implement the controls.

1-59. As RM practitioners continue identifying options for controls, they continue reassessing the hazards. They may find that some proposed controls do not significantly lower the risk level of a given hazard. However, they should implement controls that provide even slight benefits if those benefits outweigh the costs.

1-60. The overall residual level of risk for a mission combines the residual level of risk for all identified hazards. The residual level for each hazard may differ. The overall residual level for the mission will be equal to or higher than the highest residual level for each hazard. The responsible individual must consider the number and type of hazards present. In some cases, for example, a commander may determine that the overall residual level of risk is higher than any one hazard. The assessment could be based on a number of lower-risk hazards, if in combination they present a higher risk. For example, commanders may determine that a mission risk assessment should have medium risk level even when all hazards have a low residual level. Based on the complexity of required controls and the potential synergistic effect of all hazards, a commander may determine the level of risk for a mission is high when the residual level for the individual hazards ranges from low to medium.

Note. While mathematics and analytical tools are helpful, Soldiers always need to apply sound judgment. Technical competency, operational experience, and lessons learned weigh higher than any set of alphanumeric codes.

Second Substep of Step 3—Make Risk Decisions

1-61. The purpose of RM is to provide a basis for individuals and leaders to make sound and informed risk decisions. To make those decisions, they must know the established risk tolerance and the potential gain. Ultimately, commanders are responsible for determining the risk tolerance within the command and for making risk decisions for operations, missions, or tasks. The appropriate level of command or leadership must make risk decisions about specific hazards and controls, consistent with the risk tolerance guidance. Decisionmakers must balance risk against expected gains. When Soldiers are off-duty, a risk decision may be a personal one. Individuals use RM to evaluate hazards, mitigate risks, and weigh costs versus benefits of an action both on- and off-duty. (For further guidance on the appropriate risk acceptance authority and nonoperational RM integration, see DA Pam 385-30. In addition, Soldiers should consult local regulations, SOPs, or other command policy.)

STEP 4—IMPLEMENT CONTROLS

1-62. Soldiers normally implement controls during the preparation activities of the operations process. Army leaders establish how the controls will be implemented and who will manage them. They ensure selected controls are translated into briefings and curricula and then integrated with training. They direct trainers to develop practical training solutions. They ensure units receive safety equipment and instructions on its use. Army leaders ensure subordinates fully understand and implement the controls. They ensure the implemented controls are maintained to standard. Examples of ways to disseminate guidance and ensure implementation of controls include—

- Overlays and graphics.
- Drills for vehicle and aircraft silhouette identification.
- Rehearsals and battle drills.
- Refresher training on intensive threat and friendly vehicle identification for all anti-armor and air defense weapons crews.
- Installation and maintenance of communications links for key civilian organizations.
- Operation of convoys with a prescribed minimum number of vehicles.
- Provisions to carry weapons and wear body armor and helmets when outside secure compounds.
- Accident awareness, safety briefings, and warnings.

STEP 5—SUPERVISE AND EVALUATE

1-63. Primarily, step 5 involves ensuring that controls are implemented and performed to standard. RM practitioners apply this step to validate that selected controls support achieving the end state. They identify weaknesses of controls and make changes or adjustments based on performance or changing situations, conditions, or events. However, supervision and evaluation are not limited to controls. Like other steps of RM, supervision and evaluation must occur throughout all phases of any operation or activity. RM practitioners supervise and evaluate all aspects of RM continuously.

First Substep of Step 5—Supervise

1-64. Supervision is a primary means of regulating forces. Step 5 fully integrates supervision into RM. Higher-level leaders ensure lower-level leaders responsible for implementing controls understand their responsibilities. They ensure subordinates understand how, when, and where to implement controls. Leaders supervise and monitor controls. They verify implementation and make sure controls remain in place.

1-65. Situational understanding is a critical component of RM when identifying hazards. Situational understanding is equally important in supervision. Leaders ensure that complacency, deviation from standards, or violations of policies and controls are not allowed to threaten success. They ensure Soldiers monitor factors such as fatigue, equipment serviceability and availability, and the weather and environment. If they identify more hazards during operations, they can propose controls to eliminate or mitigate them. Commanders and leaders exercise supervision to maintain situational understanding. This helps them anticipate, identify, and assess any new hazards and develop or modify controls as necessary.

1-66. An extraordinary degree of discipline is needed to avoid complacency from boredom and overconfidence when personnel are performing repetitive tasks. Individuals are inclined to neglect controls used for a prolonged period, due to overconfidence or complacency. For example, when units first begin performing stability tasks, the hazards posed by improvised explosive devices are readily identified, and controls established and enforced. However, over time and with success (no accidents or incidents) complacency may set in. When this happens, established controls lose their effectiveness. The threat of terrorism is another example. When individuals live or operate in an area not considered a high-threat area, or when they operate in a high-threat area for an extended period without incident, their vigilance and situational awareness tend to wane. Other examples of long-term hazards include climatic extremes; chemical, biological, radiological, or nuclear material; contaminated waste; or diseases common to an area of operations.

Second Substep of Step 5—Evaluate

1-67. RM practitioners conduct evaluation during all phases and activities of operations, including after AARs and other assessments at the end of an operation. Evaluation supports several goals, including but not limited to—

- Determining if risk levels changed during operations.
- Adapting to changes in the situation.
- Monitoring effectiveness of controls.
- Making corrections to control implementation.
- Improving the application of RM principles in current and future operations.

(See additional examples in table 1-5, page 1-16.)

Table 1-5. Evaluation goals

Sample goals	*Specific examples*
Identify hazards not already identified as part of the initial risk assessment, or identify hazards that evolved during an operation, mission, event, or activity.	Consider changes in personnel, equipment, the environment, or the mission that affect the initial risk assessment. Reassess the controls.
Assess effectiveness in supporting operational goals and objectives.	Did the controls positively or negatively affect training or mission accomplishment? Did the controls align with doctrine (principles, tactics, techniques, and procedures)?
Assess the implementation, execution, and communication of the controls.	How well was information about how to implement the controls communicated? Did all who needed to know about them get the message? Were adequate training and safety equipment provided?
Assess the accuracy of residual levels of risk and the effectiveness of controls.	Were the residual levels of risk on the risk assessment worksheets correct? Did the controls have the effects predicted? If not, why?
Take action to correct ineffective controls or respond to new hazards.	Improve communication, implementation, and execution in all practical ways possible, such as through briefings, training, or equipment maintenance. If original risk assessments no longer suit the situation or new hazards arise, perform new risk assessments.
Reevaluate risks and controls when the resources, tasks, or operational environment changes.	Initiate new risk assessments for new missions or circumstances.
Ensure application of risk management principles.	Did units integrate the process throughout the phases of the operation? Were risk decisions accurate? Did the appropriate level of command make decisions? Were unnecessary risks taken? If so, did the benefit outweigh the cost in dollars, training benefit, and time?

Feedback

1-68. An evaluation by itself is not enough. Organizations must establish a feedback system to ensure controls are, were, or will continue to be effective; any hazards identified during operations are analyzed; and appropriate corrective action is taken. Feedback informs all involved as to the effectiveness of controls. Organizations should collect data on RM efforts. RM practitioners can share feedback in the form of briefings, lessons learned, reports, or benchmarking. Without feedback, Army leaders cannot know if forecasts were accurate, contained minor errors, or were completely incorrect.

Tools and Techniques

1-69. Commanders, Army leaders, and individuals have responsibilities for supervision and evaluation of operations and activities. Techniques may include pre-combat checks or pre-combat inspections, spot-checks, situation reports, backbriefs, buddy checks, and close oversight.

1-70. AARs provide a forum for assessing the completed mission or operation. Soldiers conducting AARs should include results on the effectiveness of RM with emphasis on assessing the controls.

1-71. Based on evaluation and feedback on the effectiveness of RM during operations, practitioners develop and disseminate lessons learned for incorporation into future plans, operations, and activities. Lessons learned from RM, including DD Form 2977 and other RM worksheets (hasty or preliminary), should be captured and retained for later use.

Tracking and Documentation

1-72. To maintain continuity with mission tasks and requirements, organizations should track RM in a standardized manner. They should use DD Form 2977 for all deliberate assessments. See appendix A for samples of DD Form 2977 and instructions on its use. Appendix A contains sample scenarios and examples of how to use the DD form in various situations. In addition to providing an Army standard, continuous use of this form reinforces effective RM. It helps commanders, Army leaders, and all individuals integrate the five-step process into operations. Units can tailor additional tools to use RM information appropriately for a particular operation, mission, activity, or event.

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Chapter 2
Responsibilities

This chapter discusses responsibilities of Army organizations, commanders, executive officers, protection or operations officers, staffs, Army leaders, and individuals.

ARMY ORGANIZATIONS

2-1. Army organizations at every level must understand and apply risk management (RM) during all activities. The five-step process—identify the hazards, assess the hazards, develop controls and make risk decisions, implement controls, and supervise and evaluate—is most effective when used consistently, across all echelons. Commanders, staff officers, Army leaders, individual Soldiers, and Army civilians each contribute to the mission. Within any organization, an individual's responsibility for RM depends on the nature of the operation or activity.

2-2. Army leaders at every level should require subordinates to integrate RM into operations. In Army operations, making risk decisions is primarily the responsibility of commanders and Army leaders. At battalion level and above, staffs support commanders. Staff officers must incorporate RM in their planning and assessments. Organizations and individuals operate within the acceptable level of risk established by their leadership—the risk tolerance—and provide feedback to them (see paragraphs 1-42 through 1-46 for risk levels). (See ATTP 5-0.1 for fundamentals of staff organization, operations, duties, and responsibilities.)

2-3. Army leaders at every level should encourage subordinates to use RM for off-duty activities. In nontactical or off-duty activities, individuals are responsible to make risk decisions. However, commanders still set parameters through standard operating procedures (SOPs), policy letters, and other guidance.

COMMANDERS

2-4. The commander's responsibilities for RM are to—

- Ensure organizational elements are able to perform duties to standard and to minimize human error, materiel failure, and environmental effects.
- Establish a force protection policy and publish a commander's safety philosophy with realistic safety goals, objectives, and priorities.
- Ensure the commander's training assessment considers the protection requirements. Select and ensure implementation of long-term, short-term, and near-term control actions to improve force protection.
- Ensure individuals have the RM training needed for their position and responsibilities. (See the United States Army Combat Readiness/Safety Center Web site for a list of RM and safety training resources.)
- Ensure the staff integrates RM into the planning, preparing, executing, and assessing of all operations, and encourage RM use off-duty.
- Establish the overall risk tolerance within the command.
- Establish the risk tolerance for each mission—if not already set by the higher command.
- Make risk decisions, normally by approving risk assessment worksheets for tasks or missions.
- Select, monitor, and enforce implementation of controls for hazards likely to result in loss of combat power.

- Elevate the risk decision to the higher command if the residual level of risk for a mission rises above the risk tolerance established by the higher command, or if implemented controls fail to keep the mission within the higher command's risk tolerance.
- Provide appropriate guidance, and ensure adherence to the risk tolerance at all levels within the command.
- Ensure organizations conducting after action reviews evaluate RM integration and effectiveness.
- Determine if unit performance meets force protection guidance. Determine effectiveness of controls; make necessary changes to guidance and controls. Ensure changes are fed back into the training management cycle and guidance for operations, including unit SOPs.

EXECUTIVE OFFICERS OR CHIEFS OF STAFF

2-5. The responsibilities of the executive officer or chief of staff for RM are to—

- Provide RM guidance and oversee the application of RM throughout staff direction and tasking.
- Facilitate and monitor RM staff coordination between command elements and echelons.
- Ensure quality and timeliness of staffing products for the commander, making decisions under the commander's guidance.
- In the absence of the commander, assume the commander's responsibilities (paragraph 2-4).

PROTECTION OFFICERS OR OPERATIONS OFFICERS

2-6. The chief of protection—or the operations staff officer (S-3) in units without a protection cell—in coordination with the safety officer or safety manager integrates RM into operations. In organizations with organic professional safety personnel, the safety officer or safety manager, as part of the commander's personal staff, provides technical RM expertise to the commander and staff. Organizations without organic safety personnel obtain this support from trained additional or collateral duty safety officers. The RM responsibilities for these staff officers are to—

- Monitor the conduct of training and operations during execution, looking for variances from the protection plan or scheme of protection. Advise the commander when they detect protection activities that appear to be below standard.
- Develop goals, objectives, and priorities for the command's force protection policy.
- Develop protection measures of performance and effectiveness, related to RM and safety input for the commander's training assessment, in collaboration with the safety officer or safety manager.
- Identify and assess hazards, and propose controls for each course of action (COA) during planning and preparation for operations.
- Assess unit RM and force protection performance during training and operations. Provide recommended changes to force protection guidance and controls.
- Capture lessons learned from RM. Retain worksheets for use during future operations.

STAFFS

2-7. A *running estimate* is the continuous assessment of the current situation used to determine if the current operation is proceeding according to the commander's intent and if planned future operations are supportable (ADP 5-0). Each staff element is responsible for integrating RM into its running estimates and plans. The staff responsibilities for RM are to—

- Provide RM support to meet operational requirements.
- Provide clear and practical procedures and standards for each task of the mission-essential task list (METL).
- Provide necessary training for task performance to standard.
- Identify force protection shortcomings and develop control actions.
- Apply the RM five-step process cyclically and continuously throughout operations.
- Develop and implement controls selected by the commander.

ARMY LEADERS

2-8. Leader responsibilities for RM are to—

- Enforce METL task performance to standard. Adopt an incremental (crawl-walk-run) approach in planning and executing training.
- Ensure all personnel are trained and competent in the integration of RM. Use automated on- and off-duty RM tools and surveys available from the United States Army Combat Readiness/Safety Center Web site, as appropriate.
- Implement and maintain the controls selected by the commander and assess their effectiveness. Notify the higher command if, after implementing controls, the leader assesses the residual risk level as above the risk tolerance (see paragraph 1-6). Leaders do not accept residual risk above the risk tolerance set by their command.
- Apply and promote RM integration into all activities of the operations process.

INDIVIDUALS

2-9. The individual's primary role in RM during operations is to support commanders and leaders by rapidly identifying and communicating hazards and risks that arise and may affect the mission. This usually takes the form of providing immediate feedback to the leader as the operation progresses and hazards are encountered. During the performance of tasks, the individual becomes a primary source for actively identifying, reporting, and assessing hazards. Depending on the context, short written messages, hand and arm signals, or radio transmissions are effective means of communicating first-hand information to leaders. There will be situations, however, when individuals or small groups must exercise individual initiative or make risk decisions within the context of orders. All Soldiers and Army civilians must understand how to use the five-step process to enhance mission accomplishment and to reduce or eliminate loss.

2-10. All individuals should be alert for hazards and address them promptly. Individuals may not always be responsible to prepare DD Form 2977 or use a matrix. They will rely on and implement risk guidance from their leadership to determine potential changes in the risk level. The most significant responsibility of individuals is to be observant and report hazards or changes in risk level. To do this they must know the mission and commander's intent. The responsibilities of individuals are to—

- Sustain self-disciplined duty performance and personal conduct.
- Maintain and observe RM controls selected by the commander and leader.
- Use risk assessment tools provided online by the United States Army Combat Readiness/Safety Center, as directed.
- Request support through the chain of command to implement or maintain controls beyond personal capability.
- Adhere to RM procedures established by the command.

2-11. In operations, individuals rely on risk parameters established by commanders and Army leaders. However, in off-duty situations, individuals must make their own risk decisions. All individuals should understand the five-step process as a life skill applicable to their activities. The principles of RM are as relevant in personal situations as they are in the military decisionmaking process or troop leading procedures.

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Chapter 3

Application to Troop Leading Procedures

This chapter discusses planning considerations and risk management techniques for troop leading procedures, focusing on risk management application by leaders of company-size and smaller units. Then, it explains the rapid decisionmaking and synchronization process in relation to risk management application.

PLANNING CONSIDERATIONS FOR TROOP LEADING PROCEDURES

3-1. *Troop leading procedures* are a dynamic process used by small-unit leaders to analyze a mission, develop a plan, and prepare for an operation (ADP 5-0). Troop leading procedures (TLP) provide small-unit leaders a framework for planning and preparation. Army forces use risk management (RM) during all Army operations. RM is integral to planning and preparation. The RM principles and five-step process help leaders identify hazards, assess risk, and make sound risk decisions.

3-2. The key difference between TLP and the military decisionmaking process (MDMP) is the time and staff resources available to perform the process. The MDMP (discussed in chapter 4) normally is used at command levels where staffs and time are available to perform a thorough review and assessment. In the MDMP, commanders and staffs—usually at battalion level and above—develop formal courses of action (COAs) and publish written orders. In contrast, unit leaders use TLP to execute the plans and orders developed through the MDMP. Army leaders or commanders typically use TLP with minimal support and limited time. The eight steps of TLP are—

- Step 1—Receive the mission.
- Step 2—Issue a warning order (WARNORD).
- Step 3—Make a tentative plan.
- Step 4—Initiate movement.
- Step 5—Conduct reconnaissance.
- Step 6—Complete the plan.
- Step 7—Issue the order.
- Step 8—Supervise and refine the plan.

Figure 3-1, page 3-2 depicts graphically how the RM steps can fit into and support TLP.

3-3. Normally, the first three steps (receive the mission, issue a WARNORD, and make a tentative plan) of TLP occur in order. However, the sequence of subsequent steps is based on the situation. The tasks involved in some steps (such as initiate movement and conduct reconnaissance) may occur several times. The last step, supervise and refine the plan, occurs throughout operations. RM occurs continuously throughout operations, with varying emphasis on different steps at different times. The supervision (during operations) and evaluation (during and after operations) must feed back into the system (see figure 3-1). Through feedback, leaders ensure corrections are made during the current operation and in future operations.

Troop leading procedures	Risk management steps				
	Step 1 Identify the hazards	**Step 2** Assess the hazards	**Step 3** Develop controls and make risk decisions	**Step 4** Implement controls	**Step 5** Supervise and evaluate
Receive the mission	X	X			
Issue a warning order	X	X	X		
Make a tentative plan	X	X	X		
Initiate movement	X	X	X	X	
Conduct reconnaissance	X	X	X	X	
Complete the plan	X	X	X	X	
Issue the order			X	X	X
Supervise and refine				X	X

Figure 3-1. Troop leading procedures correlated with risk management steps

3-4. The amount of time available to a commander or leader often dictates the level of detail that can go into plans. Army leaders should attempt to provide lower-level units two-thirds of the planning time available. To maximize the time available, leaders often pass information in the form of WARNORDs to their subordinates. This allows their subordinates to begin parallel planning of the TLP with the MDMP. Figure 3-2 depicts parallel planning correlated with RM. The type, amount, and timeliness of RM information passed from higher to lower levels of command may have a significant effect on the level of detail used by lower unit leaders.

3-5. The time between receiving the mission and initiating the WARNORD can significantly affect the time available for a subordinate unit to conduct risk assessments and implement appropriate controls. While battalion- and higher-level headquarters (HQ) have specialized staff sections conducting risk assessments, companies and platoons may have only one or two people performing assessments. Higher-level leaders should provide subordinates sufficient time and details to conduct each of the five steps of RM. Particular attention should be given to step 4 of RM (implement controls). Aligning standard operating procedures and ensuring regular use may reduce the time needed for planning at each level. Commanders and staffs act on requests for information as quickly as possible to minimize planning delays at subordinate units.

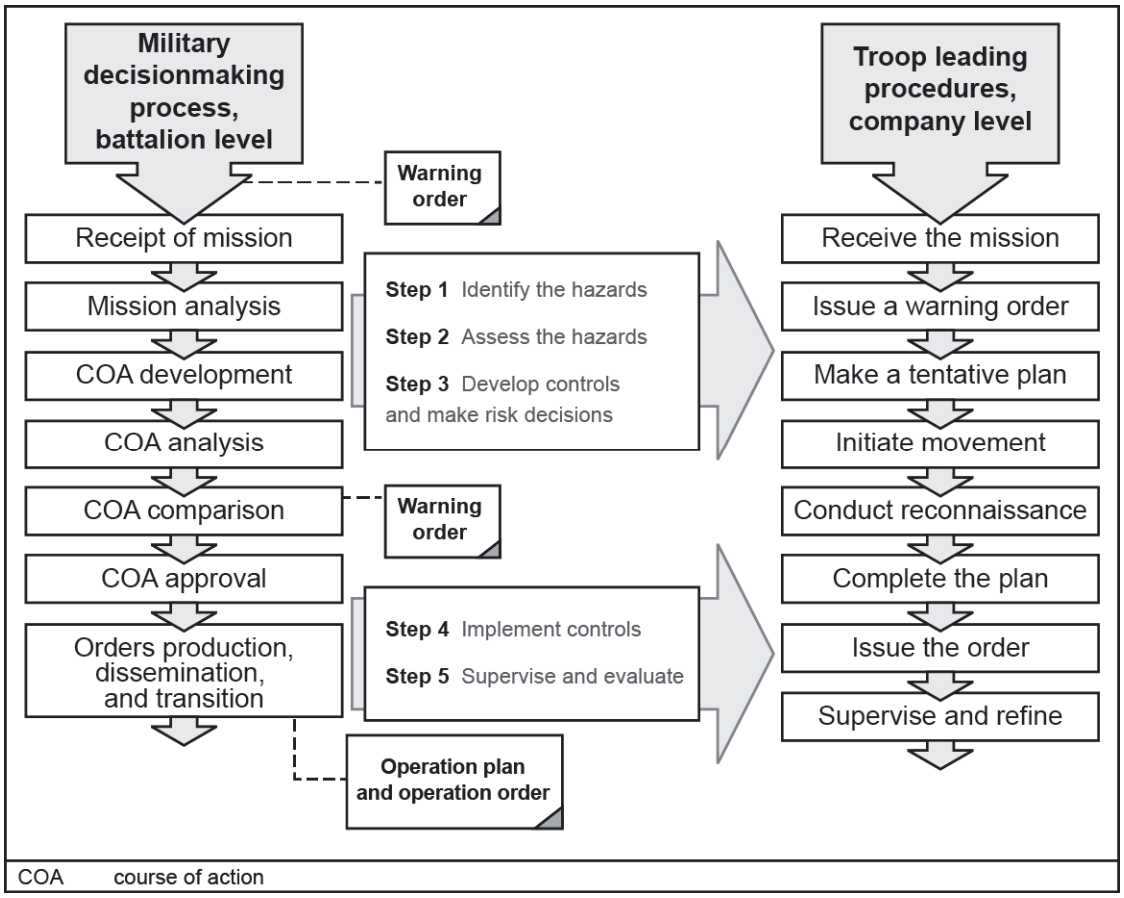


Figure 3-2. Parallel planning correlated with risk management steps

WARNING ORDER

3-6. A WARNORD is a preliminary notice that provides subordinate commanders and leaders the additional time to conduct assessments, perform parallel planning, and begin preparation in anticipation of a coming mission. Under normal conditions, a battalion HQ will issue at least three WARNORDs to its subordinate units. The first WARNORD is issued on receipt of the mission, the second on completion of the mission analysis, and the third when a specific COA has been approved. Subordinate commanders and leaders can expect to receive sufficient information in a WARNORD to initiate their preparation and assessments. Figure 3-3, page 3-4, depicts examples of RM considerations for each WARNORD in this series.

First Warning Order

3-7. In the first WARNORD, commanders and leaders should expect broad, general information with minimal risk guidance. This WARNORD may be a base order (see Army doctrine on plans and orders) or it may simply take the form of a full overlay. It may consist of a map with graphic control measures depicting controls (that is, actions that eliminate hazards or reduce risk; see paragraph 1-7) established by the higher HQ. Army leaders should be alert to any controls that will require coordination with adjacent units. The subordinate commander or leader must review this WARNORD carefully to determine specific actions or implied tasks needed to implement these controls. Risk guidance normally is provided in paragraph 3.d., *Coordinating Instructions.*

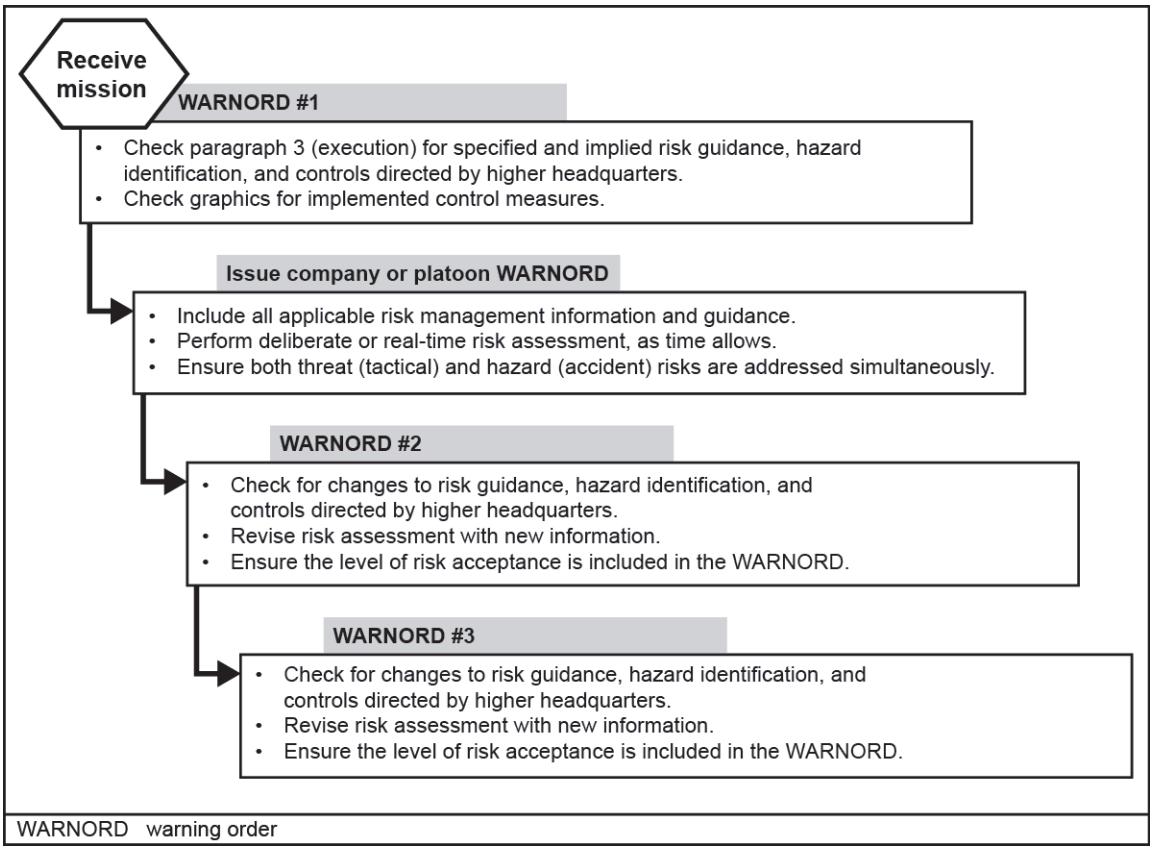


Figure 3-3. Information flow in warning orders

Second Warning Order

3-8. On completion of the mission analysis, Army leaders will issue the second WARNORD. Risk guidance will be more detailed in this WARNORD. It may contain the results of the initial risk assessments prepared during the mission analysis. Risk information in this order may consist of both graphic control measures and mission tasks. These should address specific hazards and controls for the entire operation. Lower-level commanders and leaders must initiate immediate action to integrate this guidance into their planning. At this time, the Army leader should begin to conduct a deliberate risk assessment and initiate any physical controls directed by the higher HQ. Subsequent WARNORDs may follow, depending on the time available, mission changes, and other factors.

Ongoing Risk Management and Warning Orders

3-9. RM is ongoing. It continues from the receipt of an initial WARNORD to the receipt of the final operation order (OPORD). Information and assessments are continually revised and updated to reflect the current situation. The process of receiving, distributing, revising, and updating the hazards, risks, and controls for both threat (tactical) and hazard (accident) risk continue simultaneously until the final order is issued. The key is to provide subordinates with the most current and complete information pertaining to hazards and controls for the existing situation and all foreseeable contingencies. Commanders and leaders at all levels must ensure that each successive WARNORD contains sufficient RM information to help subordinate commanders and leaders with their planning and preparation for the operation. To be effective, commanders and leaders must remain especially alert for those controls that require coordination with adjacent and supporting units.

RISK MANAGEMENT TECHNIQUES FOR TROOP LEADING PROCEDURES

3-10. Paragraphs 3-11 through 3-30 detail some of the techniques for applying the five steps of RM to the eight steps of TLP. Although RM is to be integrated into every step, the process is integrated most heavily in the first four steps. Further, the basics of RM integration remain the same throughout the steps of the TLP.

STEP 1 OF TLP–RECEIVE THE MISSION

3-11. Commanders and leaders can receive a mission in several ways. These depend on the available time, mission changes, and other factors of METT-TC—mission, enemy, terrain and weather, troops and support available, time available, and civil considerations. The WARNORD is a common vehicle used when time permits. When the situation does not allow sufficient time for execution of the normal TLP, a fragmentary order (FRAGORD) may be used.

Situations with Adequate Planning Time

3-12. Risk assessments made when adequate time exists must be deliberate and detailed using DD Form 2977. This form should accompany the completed OPORD. It may be referenced in the various staff annexes. Commanders and leaders may use the form to capture RM information from higher HQ and their own RM data. Commanders and leaders will ensure their forces follow the risk tolerance and control guidance established by higher HQ and the requirements of the approved DD Form 2977. The DD Form 2977 is a stand-alone document that identifies, explains, and clearly defines the RM aspects of the associated OPORD, WARNORD, or FRAGORD.

Situations with Inadequate Planning Time

3-13. Battlefield dynamics within an operational environment often produce situations where immediate decisions are required. Commanders and leaders often have little or no time to make a deliberate application of RM. In these situations, they perform real-time risk assessments. A real-time risk assessment may be performed mentally. It may be transmitted verbally or in writing via a FRAGORD. Figure 3-4, page 3-6, shows an example of a real-time risk assessment passed from company to platoon level. Only the essential information necessary to complement a FRAGORD and forward the risk guidance received from the battalion commander are included. As in the example, an overlay may be included with the risk assessment, to portray the location of hazards clearly. It may be incorporated within a FRAGORD issued by the company to the platoon.

Conduct Initial Risk Assessment

3-14. At this point in the TLP, the commander or leader makes an initial risk assessment that compares the potential for threat (tactical) and accidental hazards against the factors of METT-TC. It is important to search actively for potential hazards that may arise during initial movement, performance, and consolidation activities. RM information and guidance from the higher HQ must be included in this assessment.

Allocate the Available Time

3-15. During this step, commanders and leaders must estimate the available time to plan, prepare for, and execute the operation. A reverse planning process is used to identify and allocate adequate time for all of the major events of the operation. As a rule of thumb, leaders use one-third of the available time for their planning and leave two-thirds of the time for subordinates to conduct their planning and preparation. It is especially important that time estimates be realistic and as accurate as possible.

Risk Assessment #1a

Task 1: NET 081800Z March 2012, 3-87 IN (MECH) at SP RTE HAWK.

Task 2: NLT 082030Z March 2012, Set defensive positions BP 50—orient on TRPs A-1–A-5.

Task 3: O/A 082200Z March 2012, prepared to conduct BHO with 1-52 AR.

Hazards
Task #1: Bridge at Green River could collapse, 20-ton weight limit

Risk – High for heavy vehicles on bridge, low for other wheeled vehicles

Control – Heavy vehicles use fording site DELTA. Site secured by 1-17 CAV.

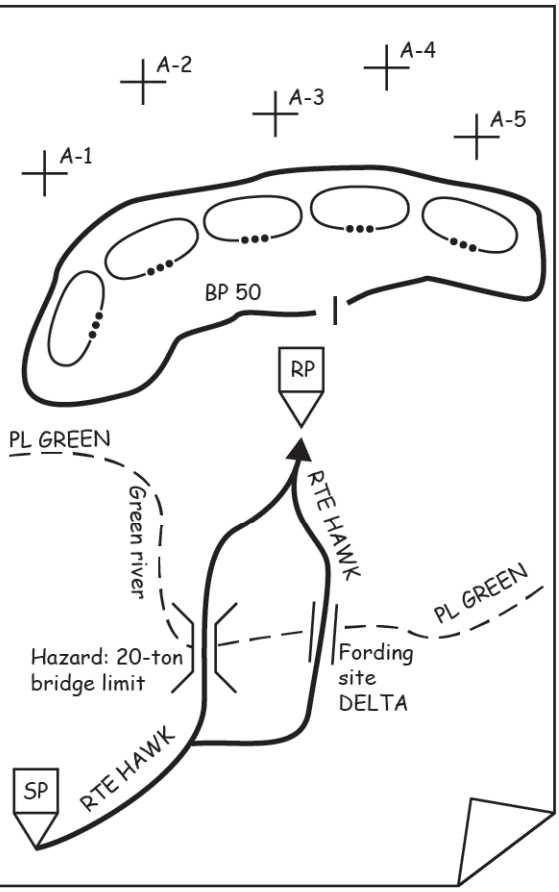
Task #3: Fratricide risk
Risk – High risk of heavy vehicles running over dismounted troops

Control – Use ground guides and position marking during heavy vehicle movement into BP 50

Initial risk – High
Residual risk – Medium

Wilson, MAJ
S-3

Acknowledge



AR	armor	MECH	mechanized	RTE	route
BHO	battle handover	NET	no earlier than	S-3	operations staff officer
BP	battle position	NLT	no later than	SP	start point
CAV	cavalry	O/A	on or about	TRP	target reference point
IN	infantry	PL	phase line		
MAJ	major	RP	rally point		

Figure 3-4. Example real-time risk assessment

STEP 2 OF TLP–ISSUE A WARNING ORDER

3-16. The WARNORD sequence and RM information in the order may be addressed in terms of its applicability to the MDMP. Frequently, WARNORDs are given verbally with only a few notes and a graphic overlay. Figure 3-5 provides an example of a platoon WARNORD with RM information included. The RM information in this example is general and should be expanded as subsequent guidance is received from higher HQ or as the situation changes. In this example, the leader includes an initial assessment of the potential for fratricide. This could be changed or expanded on receipt of the final order.

[CLASSIFICATION]

WARNORD #4 for Operation Fox

1. Situation. The enemy reinforced mechanized battalion is moving south in an attempt to capture the Green River Bridge. The 110th Support Brigade, now located at TAA IVAN, provides support.

2. Mission. Our company has been ordered to conduct a relief on station with 1-52 AR, within BP 50, to support flanking attacks by B and C companies. O/O, the battalion will conduct a hasty attack on the enemy support brigade, vicinity TAA IVAN. End state will be the consolidation of the battalion within TAA IVAN and control of MSR MIAMI.

3. Execution. A/3-82 IN (MECH) will SP in order beginning with 1st Platoon, using the fording site as the crossing site, and set within BP 50 from west to east, with platoon leaders or their designees conducting battle handovers.

TIME SCHEDULE:

- Company WARNORD brief—081000 March 2012.
- 1st Platoon SP, RTE HAWK—081800 March 2012.
- 1st Platoon fords Green River—081830 March 2012.
- Battle handover complete—082200 March 2012.

THREAT RISK—HIGH: Small dismounted elements may have flanking cover along the route.

HAZARD RISK—LOW: Green River fording site and conditions are optimal.

FRATICIDE RISK—LOW: Good communication and optimal FLIR conditions allow above average ID.

4. Sustainment. *No change.*

5. Command and Signal. *No change.*

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

Legend					
AR	armor	ID	identification	SP	start point
BP	battle position	MSR	main supply route	TAA	tactical assembly area
FLIR	forward-looking infrared	O/O	on order	WARNORD	warning order
		RTE	route		

Figure 3-5. Company warning order example (handwritten)

STEP 3 OF TLP–MAKE A TENTATIVE PLAN

3-17. Commanders and leaders ensure their mission and end state nest with those of their higher HQ. While the commander's intent focuses on the end state, the concept of operations focuses on the method or sequence of actions by which the force will achieve the end state. The concept of operations expands on the mission statement and commander's intent. It is within the commander's intent and concept of operations that the staff must focus planning and integrate RM most ardently. Implementing controls and supervising their implementation begin before executing the operation.

Task Organization

3-18. From a RM perspective, commanders and leaders routinely examine higher HQ missions or orders to determine the level of risk. The leader will evaluate the abilities of the unit and may request support. If the leader has the required abilities available, that leader may task organize forces in a way that minimizes the hazards and risks while providing the proper capability at the best time and place on the battlefield.

Command and Support Relationships

3-19. By specifying a chain of command, command relationships unify effort and enable commanders to use subordinate forces with maximum flexibility. The closer the command or support relationship, the more

leaders must consider other forces not organic to their organization when identifying and assessing hazards. Other units may increase or decrease hazards on the battlefield as well as the overall risk, depending on mission and operational factors.

Commander's Intent

3-20. The *commander's intent* is a clear and concise expression of the purpose of the operation and the desired military end state that supports mission command, provides focus to the staff, and helps subordinate and supporting commanders act to achieve the commander's desired results without further orders, even when the operation does not unfold as planned (JP 3-0). Many consider the commander's intent, along with the mission statement, to be the most important portions of an OPORD. It gives guideposts to planners and subordinate leaders for further planning and implementation.

Concept of Operations

3-21. The *Concept of Operations* paragraph describes, in general terms, how the unit will accomplish its task or tasks from start to finish. It should identify all mission-essential tasks, the decisive points of action, and the main effort. This paragraph should be no longer than six sentences. It will not include risk guidance but will give generalized guidance on how the commander wants to see the operation unfold.

Implementing Controls to Mitigate or Eliminate Risk

3-22. RM practitioners implement appropriate controls to mitigate or eliminate risk. Commanders are responsible for the implementation and maintenance of controls. Commanders expect staff and subordinate leaders to implement and maintain the controls to standard. A method to supervise and evaluate the effectiveness of controls may be as important as their implementation. Active leader participation at the lowest levels is a critical element in ensuring control implementation and maintenance. The leadership and staff should develop and employ the most effective controls for a given set of circumstances, while abandoning those found less effective. They ensure controls are correctly implemented and determine their effectiveness by tools such as the after action review.

STEP 4 OF TLP–INITIATE MOVEMENT

3-23. Movement of forces may begin in stages or en masse. The rapid decisionmaking and synchronization process is most often used from this point on. The same five-step process for RM is applied at the real-time application level, due to time constraints. At a minimum, during execution leaders complete real-time RM mentally and transmit controls and risk decisions verbally to subordinates. Leaders keep in mind that the depth of RM planning has a direct effect on performance under demanding conditions.

3-24. The individual's primary role in RM is to support commanders and leaders in the rapid identification and communication of hazards and risks that arise and may affect the mission. This usually takes the form of providing immediate feedback to the Army leader as the operation progresses and hazards are encountered. During the execution of the operation, the individual becomes a primary source for actively identifying, reporting, and assessing hazards. Short written messages, hand and arm signals, or radio transmissions are all effective means of communicating first-hand information to Army leaders. However, individuals or small groups are expected to act alone when necessary, making risk decisions within the context of orders. This is why it is imperative for Army leaders to ensure every individual understands how to use the five-step process to enhance mission accomplishment and reduce or eliminate loss. Being skilled in a real-time application of RM, both on and off-duty, is critical at the individual and small-group level.

STEP 5 OF TLP–CONDUCT RECONNAISSANCE

3-25. Throughout the preparation for and execution of an operation, leaders should take every opportunity to improve their situational understanding. This requires aggressive and continuous information collection. Sources of information about threats include reconnaissance, intelligence, and experience or expertise of the leader and staff. Army leaders at lower levels may need to depend on higher HQ for the majority of their information and intelligence. However, it is the lower-level leader's responsibility to apply the information gathered to this point of operation on the battlefield. Likewise, it is the leadership's responsibility to integrate that information and information about the unit's capabilities and limitations to assess risk and implement appropriate controls within the appropriate guidance. Without a staff, the commander must remain more flexible and assign information collection duties as individual and mission capabilities within the command allow. Often, direct information collection (including reconnaissance) begins early in the planning cycle and must continue through the preparation and execution. Through information collection, leaders and staffs continuously plan, task, and employ collection assets and forces to collect timely and accurate information that answers commander's critical information requirements and other information requirements. Relevant and timely requests for information must be made to higher HQ. These requests may focus directly or indirectly on risk reduction (tactical or nontactical).

3-26. The force as a whole is often most vulnerable to surprise and enemy attack during preparation—when forces are concentrated in assembly areas, when leaders are away from their units, and when troops are concentrated together during rehearsals. Security missions—screen, guard, cover, area security, and local security—are essential during preparation. Safety and security work in tandem. The leader must continually assess the risk and implement appropriate controls to counter the threat. Tactically, the leader can use credible information to lay ambush during such times of potential vulnerability. Preparing for the unexpected is also a major part of RM. Well-rehearsed pre-attack and pre-accident plans minimize the risk from unexpected events.

STEP 6 OF TLP–COMPLETE THE PLAN

3-27. During step 6 of TLP, the leader ensures all guidance is captured and made deliverable in a clear and concise format. The leader completes a plan based on the reconnaissance and any changes in the situation. The leader should review the mission, as received from the commander, to ensure the plan meets the requirements of the mission and stays within the framework of the commander's intent. The plan must specify identified hazards, controls to be implemented, who is responsible for implementing and maintaining them, how and when they will be implemented, and who will supervise.

STEP 7 OF TLP–ISSUE THE ORDER

3-28. The order must be disseminated so that all units receive and acknowledge its receipt. An order not received is an order not given. Army leaders must ensure that subordinates understand the mission, the commander's intent, the concept of operations, and their tasks. This includes the risk tolerance, controls, and limitations set. Army leaders may require subordinates to repeat all or part of the order or demonstrate on the terrain model, sand table, or sketch to gauge their understanding of the operation. One-on-one or en-masse backbriefs may also be used to ensure understanding. RM must be integrated thoroughly into the plan, and the risk guidance plainly stated. Including DD Form 2977 as an attachment or annex to the order is a best practice, to ensure critical risk-related information gathered and addressed in planning is forwarded to the point of operation.

STEP 8 OF TLP–SUPERVISE AND REFINE THE PLAN

3-29. Army leaders supervise the unit's preparation for combat by conducting rehearsals and inspections. Army leaders will address points of conflict as well as any changes during this time. Refining the plan as changes occur is critical. Time may not allow for written changes at this point. The leader must ensure all involved thoroughly understand any changes made to the plan. From this point on, real-time RM becomes more likely, as available planning time will not be sufficient for deliberate RM.

3-30. Rehearsals can be an invaluable aid in ensuring mission accomplishment. During rehearsals, key personnel walk through the operation and address contingencies. The leader should conduct rehearsals on terrain that resembles the actual ground. Rehearsals include having junior leaders brief their planned actions in execution sequence to their senior leaders and their peers. This allows the senior leader to make modifications and others to visualize the operation as the leader intended. Rehearsals may be conducted at several levels, beginning at the crew level, with key players attending the next higher-level rehearsal.

RAPID DECISIONMAKING AND SYNCHRONIZATION PROCESS

3-31. The rapid decisionmaking and synchronization process is a decisionmaking and synchronization technique that commanders and staffs commonly use during execution. This intuitive process is closely related to the real-time approach to RM. Soldiers develop their capability to make decisions rapidly with training and practice. The rapid decisionmaking and synchronization process, illustrated in figure 3-6, includes five steps. The first two may be performed in any order, including concurrently. The last three are performed interactively until leaders identify an acceptable COA. While a decisionmaker must consider the hazards in each of the steps, RM should be implemented in whole during the latter three steps of the rapid decisionmaking and synchronization process.

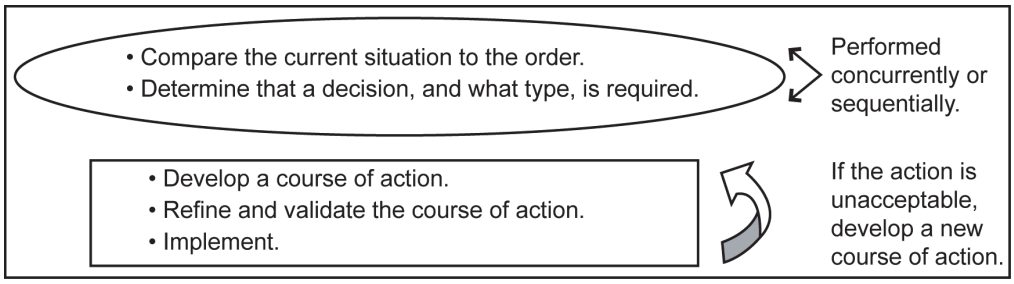


Figure 3-6. Rapid decisionmaking and synchronization process

Chapter 4

Application to the Military Decisionmaking Process

This chapter discusses risk management planning considerations and techniques for the military decisionmaking process.

PLANNING CONSIDERATIONS FOR THE MILITARY DECISIONMAKING PROCESS

4-1. Effective risk management (RM) during operations depends on full integration into the military decisionmaking process (MDMP) and the overall operations process; RM is not a stand-alone process. The *military decisionmaking process* is an iterative planning methodology to understand the situation and mission, develop a course of action, and produce an operation plan or order (ADP 5-0). Application of each of the five steps of RM into operational planning should be seamless. (See ADRP 5-0 for fundamentals of the operations process and the MDMP.)

GENERAL RISK MANAGEMENT EMPHASIS DURING THE MDMP

4-2. Each of the five steps of RM tends to require emphasis at different times during the MDMP (see table 4-1, page 4-2). While Army planning doctrine places the beginning of formal RM in mission analysis, leaders can begin identifying hazards upon receipt of the mission. The representation in table 4-1 is not intended to be prescriptive; the steps of RM are dynamic and cyclical. RM is an adaptable integrating process. Army planners use RM to identify, assess, and control hazards, reducing their effect on operations and readiness.

GENERAL SEQUENCE OF THE MDMP AND RISK MANAGEMENT STEPS

4-3. Commanders and staffs normally identify hazards in each sequential step of the MDMP. They determine existing and potential hazards through the steps of mission receipt, mission analysis, and course of action (COA) development and analysis. During orders production, preparers should clearly describe significant hazards in orders so they are documented and forces can understand them precisely. Commanders and staffs assess hazards in conjunction with mission analysis, COA development, COA analysis, and orders production. Results of risk assessments (including residual levels of risk and controls selected for mitigating hazards) may be included with the orders. Commanders and staffs develop controls and make risk decisions during COA development, COA analysis, COA comparison, and COA approval. Staffs implement RM controls during the last step of the MDMP. This step includes orders production, dissemination, and transition. Army leaders continuously assess the effectiveness of controls and changing or unexpected situations or events. They adjust operations as necessary to remain within the risk tolerance.

RISK MANAGEMENT TECHNIQUES FOR THE MILITARY DECISIONMAKING PROCESS

4-4. Paragraphs 4-5 through 4-58 discuss selected techniques for applying RM during the MDMP. RM is ongoing throughout the MDMP.

STEP 1 OF THE MDMP–RECEIPT OF MISSION

4-5. The MDMP starts with the receipt of a mission. Missions can be provided in formal, written orders or directives, or they can be informal and communicated by more expeditious means. Commanders consider the following elements of concern to RM:

- Risk tolerance.
- Mission variables or operational variables.
- Controls from higher headquarters (HQ).
- Coordination of controls with adjacent units.

Each commander must ensure a thorough understanding of the mission, including the senior commander's intent and the risk tolerance. A commander receiving a mission will analyze it and assign subordinate missions. The combined risks identified for these additional missions and tasks may modify the overall residual risk for the mission, possibly to a higher level than the risk tolerance.

Table 4-1. Risk management in the military decisionmaking process

	Risk management steps				
Military decisionmaking process steps	Identify the hazards	Assess the hazards	Develop controls and make risk decisions	Implement controls	Supervise and evaluate
Receipt of mission	X				
Mission analysis	X	X			
Course of action development	X	X	X		
Course of action analysis	X	X	X		
Course of action comparison			X		
Course of action approval			X		
Orders production, dissemination, and transition	X	X	X	X	X

Risk Tolerance in Orders

4-6. Each commander receiving a mission must know the level of command that determines the risk tolerance and eventually will make the risk decision for a mission. The staff examines the warning order (WARNORD) from higher HQ to identify the risk tolerance (the level of risk the responsible commander determines is acceptable—see paragraph 1-6) for the mission. The commander should express the risk tolerance as a level of risk—extremely high, high, medium, or low—that each subordinate commander can accept.

Mission Variables or Operational Variables

4-7. Upon receipt of mission, commanders should anticipate the need for additional assets. Commanders may ask their higher HQ for asset support to mitigate risk. The higher HQ may have access to assets that

subordinate elements do not. This is particularly true of intelligence, reconnaissance, and weather elements that can see specific battlefield hazards. During mission analysis, staffs will use the factors of METT-TC (mission, enemy, terrain and weather, troops and support available, time available, and civil considerations) and PMESII-PT (political, military, economic, social, information, infrastructure, physical environment, and time) as frameworks for identifying hazards and determining assets needed.

Controls from Higher Headquarters

4-8. The WARNORD and the operation order specify controls implemented by the higher HQ. The commander must carefully assess the impact of these controls on the mission, particularly in terms of required coordination, manpower, and equipment constraints that might detract from the primary mission. If Soldiers encounter a significant problem during the execution of an operation and they believe it is related to a control, they should notify appropriate leadership.

Coordination of Controls with Adjacent Units

4-9. In some circumstances, such as passage of lines, river crossing, or screening, a unit's primary mission may be to implement a control that reduces the risk to the higher HQ's mission. This requires coordination with adjacent units to identify hazards and controls and define procedures for the tasks. It is imperative that the method and time for control implementation, as well as critical communication methods, are set between the unit implementing the control and units involved in other aspects of the mission. The supported command should coordinate all actions to support its mission.

4-10. The commander's initial guidance from higher HQ should address the following considerations:

- Risk tolerance. Commanders must specify the level of risk (extremely high, high, medium, or low) subordinate commanders are authorized to accept. This should be stated clearly within standing guidance, coordinating instructions or set as a separate paragraph.
- Hazards already identified and categorized by METT-TC and related controls that may affect the unit's mission.

4-11. The WARNORD is critical to RM since it is the subordinate commander's first opportunity to identify and address the risks that may be associated with the operation. Figure 4-1, page 4-4, shows an example of how RM information may appear in a WARNORD. This information should be brief and clear. It should identify risk tolerance, significant hazards and guidance, risk acceptance authority, and any controls directed by the higher HQ or the issuing HQ. Detailed information on how the risk tolerance was determined is not normally included in the WARNORD but can be found in the order itself. It is critical that any RM guidance provided in the initial WARNORD is understood by the executing command so planners and subordinates understand the risk tolerance. This puts the onus on subordinate commanders to inform their superior command when they cannot accomplish their mission within the parameters established.

[Required header information reduced to conserve space; see ATTP 5-0.1 for complete order format.]

WARNING ORDER #1-30
(U) References: 4th Infantry (INF) Division operation plan (OPLAN) 13-01, 1 February 2013; Map Reference Edition 5, Series 755, Sheet 3885 IV, Scale 1:50,000.
(U) Task Organization: See Paragraph 1d.
1. (U) Situation.
a. (U) Area of Interest. None.
b. (U) Area of Operations. None.
c. (U) Enemy Forces. At 250300Z January 2013, company-size insurgent forces seized the host-nation airfield at V1 (ES 095818). Unit is believed to have only small arms capability (below 14.5mm) and no indirect fire capability. The insurgent forces are not believed to have any dedicated air defense artillery capability.
d. (U) Friendly Forces.
(1) (U) Host Nation. 12th Royal INF has moved into blocking position behind phase line (PL) HOUND.
(2) (U) Army Forces. 1st Brigade 4th INF Division conducts air assault to secure airfield and destroy all insurgent forces occupying OBJ (objective) FOX.
e. (U) Interagency, Intergovernmental, and Nongovernmental Organizations. None.
f. (U) Civil Considerations. None.
g. (U) Attachments and Detachments. None.
h. (U) Assumptions. None.
2. (U) Mission. At 020430Z February1203 1st Battalion, 1–5 INF Regiment conducts air assault into landing zone (LZ) 5 and attacks along AXIS VIPER to secure OBJ EAGLE.
3. (U) Execution.
a. (U) Initial Commander's Intent. No change.
b. (U) Concept of Operations. 1-5 INF conducts air movement from pickup zone (PZ) 2 along AXIS RED to LZ 5 with two companies. Conducts tactical movement along AXIS VIPER and a deliberate attack to seize OBJ EAGLE. Be prepared to air assault one reserve company no earlier than 020500Z February 2013. Overall risk level: Medium.
c. (U) Tasks to Maneuver Units.
(1) 4th combat aviation brigade (CAB) conducts air assault for two companies of 1–5 INF from PZ 2, along AXIS VIPER and into LZ 5 with a wheels-on-LZ of 020430Z February 2013. BPT conducts air assault of one additional company from PZ 2 along AXIS GREEN to LZ 7 no earlier than 020600Z February 2013 wheels on LZ.
(2) 4th CAB provides LZ security during air assault and BPT provides direct fire support with at least one team of attack helicopters on station for route security of AXIS RED and close combat attack support of 1–5 INF from air assault completion through the securing of OBJ EAGLE.
(3) B/146th field artillery (FA) battalion (BN) provides direct support to 1–5 INF BN, 020100Z February 2013–021200Z February 2013.
d. (U) Coordinating Instructions.
(1) (U) Time line.
020100Z February 2013—Mission update at 1st Brigade 4th INF Division tactical operations center (key representatives).
020335Z February 2013—First UH-60s (utility helicopters) wheel down at PZ 2.
020350Z February 2013—Load-up complete and lead aircraft wheels up.
020420Z February 2013—LZ 5 security call from 4th CAB security team.
020430Z February 2013—Troops unload in LZ 5.
(2) (U) Orders group. 311600Z January 2013.
(3) (U) Priority of fire. AXIS RED, 4th CAB, LZ 5, AXIS VIPER, 1–5 INF.
(4) (U) Risk guidance.
Hazard: Multiple large power lines crossing AXIS RED.
Control: Hazard maps updated; walkthrough and sand table completed with all aircrews.
Hazard: Insurgent forces covering LZ 5 and along AXIS VIPER.
Control: 4th CAB secures LZ 5 and makes LZ clearance call in accordance with execution matrix and communications card.
Hazard: Enemy strength beyond that anticipated at OBJ EAGLE.
Control: One team of attack helicopters on station and one reserve assault company prepared to air assault into LZ 7.
4. (U) Sustainment. No change.
5. (U) Command and Signal. No change.
[Sample truncated and font reduced to conserve space; see ATTP 5-0.1.]
[CLASSIFICATION]

Figure 4-1. Sample warning order

4-12. Eventually, planners will incorporate the guidance in the WARNORD as they develop COAs and plans. The WARNORD may or may not include a graphic depiction of controls essential to the operation. However, planners may include RM information in the graphics (see example in figure 4-2).

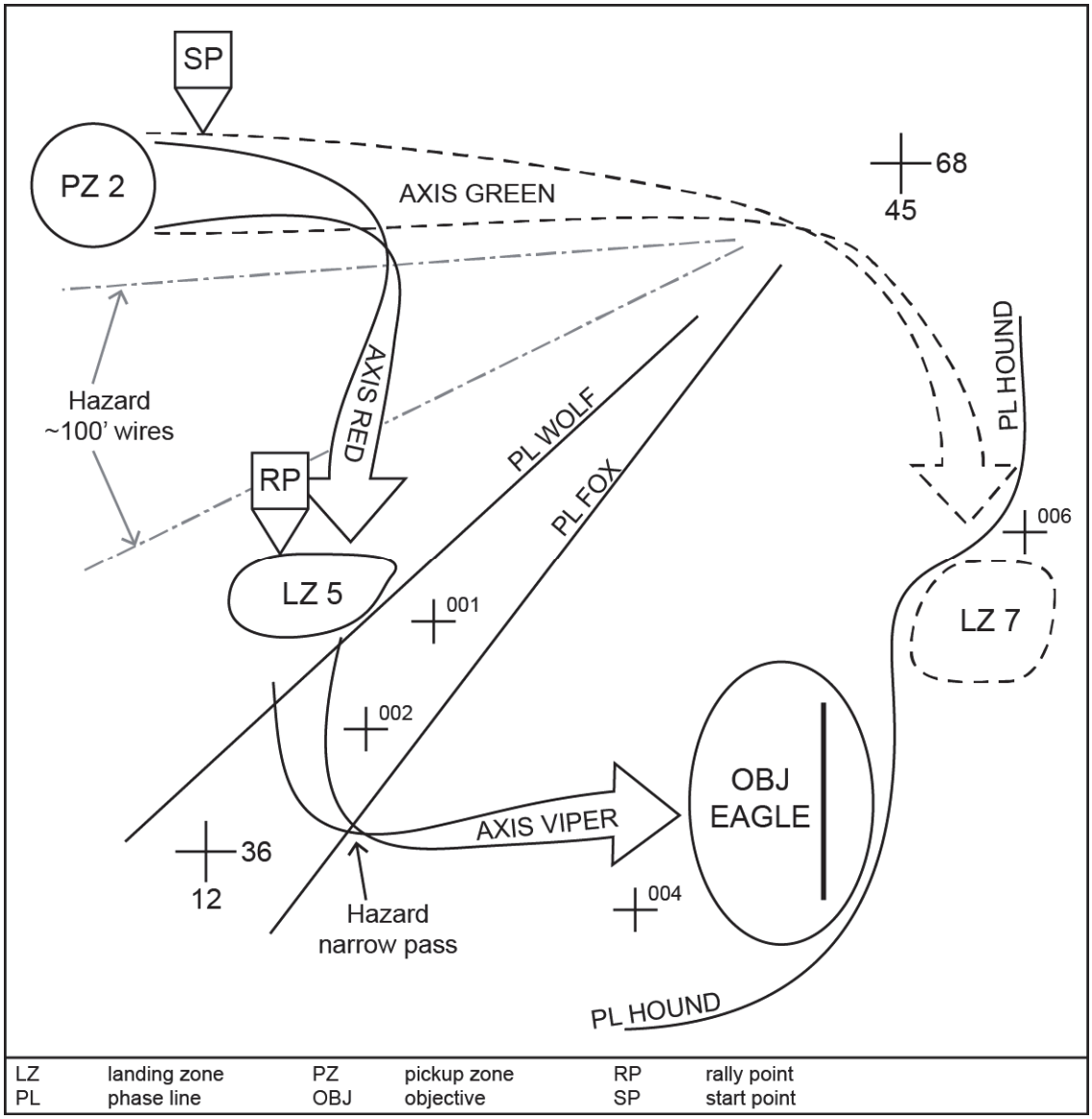


Figure 4-2. Sample graphic incorporating risk management information

STEP 2 OF THE MDMP–MISSION ANALYSIS

4-13. As commanders and staffs develop situational understanding, their application of RM is crucial. Staffs should integrate RM into the steps and products of mission analysis. As they maintain running estimates and other assessments, they should continuously integrate RM considerations. They should continue to apply RM throughout operations, during planning, preparation, and execution. Paragraphs 4-15 through 4-38 describe ways that staffs can apply RM during selected steps of mission analysis.

Analyze Higher Headquarters Plan or Order

4-14. Staffs examine and analyze orders from higher HQ to identify any changes from the original WARNORD and any follow-on or implied missions. They confirm with higher HQ specific hazards categorized by the mission variables (METT-TC), and higher HQ identifies controls along with resources for implementation. Depending on the organizational level, the order may address the hazards and controls in one general risk assessment or in a risk assessment for each staff annex. If a commander decides to conduct Army design methodology as part of mission analysis, the commander and staff should consider RM within the analysis of the operational environment. They should review several factors before beginning to write supporting risk assessments:

- Operational time line.
- Missions of adjacent units.
- Controls identified in the coordinating instructions of the order that are not already standardized in the unit standard operating procedure. Staffs should check these controls closely for special recognition and fratricide prevention measures. They should request further information from higher HQ, if needed.
- Running estimates. Each running estimate should contain risk guidance and risk assessments that address hazards and controls given in the order and all others that arose during development of the estimate. Figure 4-3 illustrates how RM information may be included in a sample running estimate.

Perform Initial Intelligence Preparation of the Battlefield

4-15. *Intelligence preparation of the battlefield* is a systematic process of analyzing and visualizing the portions of the mission variables of threat, terrain, weather, and civil considerations in a specific area of interest and for a specific mission. By applying intelligence preparation of the battlefield, commanders gain the information necessary to selectively apply and maximize operational effectiveness at critical points in time and space (FM 2-01.3). Led by the intelligence officer, the entire staff—including the safety officer or safety manager—participates in developing and sustaining an understanding of the enemy, terrain and weather, and civil considerations. Intelligence-gathering efforts help identify options available to friendly and threat forces. This step should include identifying and recommending controls for common hazards, hazards due to gaps in intelligence, and hazards from enemy intelligence-gathering.

4-16. The risk assessment considerations for the steps of intelligence preparation of the battlefield (IPB) are—

- Define the operational environment. As the intelligence staff assesses areas of interest and intelligence gaps, it determines risk in the current operational environment. In addition, the staff anticipates likely changes in the operational environment and forecasts accompanying risk.
- Describe the environmental effects on operations. The intelligence staff performs risk assessments to help manage hazards from terrain, weather, and civil considerations. They perform risk assessments for hazards related to all operational variables simultaneously. For example, hazards may be associated with enemy and friendly avenues of approach, battle positions, and engagement areas.
- Evaluate the threat. The intelligence staff performs risk assessments to ascertain how the enemy's organization and combat power might adversely affect the unit's mission. Although the focus is on the potential for the enemy's actions to create hazards, the staff must also consider how such a hazard will limit or impede friendly action.
- Determine threat COAs. Using the information gained, the staff performs a risk assessment to determine the level of risk associated with each enemy COA.

1. **SITUATION AND CONSIDERATIONS.**
   a. **Area of Interest.** *Identify and describe factors of the area of interest that affect functional area considerations.*
   b. **Characteristics of the Area of Operations.**
      (1) Terrain. *State how terrain affects a functional area's capabilities.*
      Risk Assessment Note: *State the level of risk (extremely high, high, medium, or low) created from hazards associated with the military aspects of terrain. Include types of controls to reduce the risk to or below the level set by guidance (the risk tolerance).*
      (2) Weather. *State how weather affects a functional area's capabilities.*
      Risk Assessment Note: *State the level of risk (extremely high, high, medium, or low) from hazards associated with the military aspects of weather. Include types of controls to reduce the risk to or below the level set by guidance (the risk tolerance).*
      (3) Enemy Forces. *Describe enemy disposition, composition, strength, and systems within a functional area. Describe enemy capabilities and possible courses of action (COAs) and their effects on a functional area.*
      Risk Assessment Note: *State any particular tactical risk hazards that may result from enemy disposition or capabilities.*
      (4) Friendly Forces. *List current functional area resources in terms of equipment, personnel, and systems. Identify additional resources available for the functional area located at higher, adjacent, or other units. List capabilities from other military and civilian partners that may be available to provide support within the functional area. Compare requirements to current capabilities and suggest solutions for satisfying discrepancies.*
      Risk Assessment Note: *Be alert to any hazards that may be created by units operating forward or adjacent to friendly forces. Weapons capability and limitations must be examined closely, especially for issues such as overhead fire, no-fire zones, limits of advance, and others. Avoid making assumptions.*
      (5) Civil Considerations. *Describe civil considerations that may affect the functional area, including possible support needed by civil authorities from the functional area as well as possible interference from civil aspects.*
   c. **Facts/Assumptions.** *List all facts and assumptions that affect the functional area.*
2. **MISSION.** *Show the restated mission resulting from mission analysis.*
3. **COURSES OF ACTION.**
   a. *List friendly COAs that were war-gamed.*
   b. *List enemy actions or COAs that were templated that affect the functional area.*
   c. *List the evaluation criteria identified during COA analysis. All staffs use the same criteria.*
   Risk Assessment Note: *Ensure all accident and tactical hazards and risks are included for each COA.*
4. **ANALYSIS.** *Analyze each COA using the evaluation criteria from COA analysis. Review enemy actions that affect the functional area as they relate to COAs. Identify issues, risks, and deficiencies these enemy actions may create with respect to the functional area.*
5. **COMPARISON.** *Compare COAs. Rank order COAs for each key consideration. Use a decision matrix to aid the comparison process.*
   Risk Assessment Note: *Ensure the decision matrix clearly shows the level of risk and the priority hazards and controls for each COA.*
6. **RECOMMENDATIONS AND CONCLUSIONS.**
   a. *Recommend the most supportable COAs from the perspective of the functional area. Prioritize and list issues, deficiencies, and risks, and make recommendations on how to mitigate them.*

Figure 4-3. Sample running estimate incorporating risk management information

Determine Specified, Implied, and Essential Tasks

4-17. A task is a clearly defined and measurable activity accomplished by individuals, units, or organizations. Staffs apply RM to the review of specified and implied tasks to understand—

- How specified tasks within the order are addressed and prioritized for controls are to be implemented for all identified operational hazards.
- How implied tasks are synchronized to support the specified tasks and avoid creating additional hazards.
- How to prepare and coordinate risk assessments to support the identified tasks.

Review Available Assets and Identify Resource Shortfalls

4-18. The staff conducts an in-depth analysis to determine if the current task organization and resources are sufficient to support mission accomplishment within the risk tolerance. Staffs consider whether insufficient manpower, skills, supplies, or positioning of units pose risks to the mission. Staffs strive to identify and overcome these shortcomings and lower the residual risk through controls.

Determine Constraints

4-19. Constraints are restrictions placed on the mission, most often by higher HQ. Paragraphs that apply to the scheme of maneuver, concept of operations, or coordinating instructions usually contain guidance. The order from higher HQ should address hazards to the overall mission and provide specific controls in the main body or annex. Any staff risk assessments must consider these constraints.

Identify Critical Facts and Develop Assumptions

4-20. Facts are known information about a current situation. Assumptions are beliefs based on experience that a specific reaction will result from an action. As the mission or operation develops, some assumptions may or may not become facts. Any assessment based on assumptions must be adjusted to accommodate the situation with appropriate controls. From the RM perspective, staffs should perform risk assessments to determine the likelihood that any assumption could lead to a new hazard that affects the risk level.

Begin Risk Management

4-21. While *begin risk management* is a subordinate process of mission analysis, this does not mean RM is entirely limited to mission analysis or even to planning. Planners consider how to integrate RM considerations into each step of planning as well as throughout the operation. This step of mission analysis may be the staff's first formally documented risk assessment effort. The staff compiles into a preliminary worksheet all the risk assessment information acquired during—

- Analysis of the order.
- Development of the information collection plan.
- Determination of specified and implied tasks.
- Review of available assets.
- Determination of constraints.
- Identification of critical facts and assumptions.

4-22. The final risk assessment must be recorded on DD Form 2977. The form provides the construct for identifying and recording hazards, the analysis, and the suggested controls from each running estimate. Staffs can use a simple, preliminary assessment worksheet to summarize essential information from each staff section or for each subtask.

4-23. Any preliminary risk assessment worksheet should include identified hazards, their assessed levels, and suggested initial controls from each running estimate. It should present them in a visual format easily joined with other staff assessments for the mission analysis brief. A consolidated matrix displays the various running estimates along with the hazards, assessment levels, and suggested controls. The matrix helps the staff see the overall direction the RM effort should take to support the mission. The matrix leads to the final DD Form 2977, which helps synchronize the overall RM effort. Table 4-2, page 4-9, depicts an example of a partially completed preliminary worksheet (steps 1, 2, and part of 3 of the five-step process). The final version would consolidate the risks and proposed controls identified by each staff section.

Develop Initial Commander's Critical Information Requirements and Essential Elements of Friendly Information

4-24. During mission analysis, the staff identifies gaps in information required for further planning and decisionmaking during preparation and execution. Commander's critical information requirements (known as CCIRs) include friendly force information requirements and priority intelligence requirements. An essential element of friendly information (known as EEFI) is an element of friendly force information that, if compromised, would jeopardize mission accomplishment. This information, if obtained by enemy forces, would increase the risk of the operation. During mission analysis, the staff develops information requirements based upon such importance. Staffs may nominate certain requirements to the commander to become a commander's critical information requirement or an essential element of friendly information.

Table 4-2. Sample consolidated preliminary risk assessment worksheet

Staff estimates	*Hazards identified*	*Initial assessment level*	*Proposed controls*
Movement and maneuver estimate Mobility and countermobility	High water levels and swift current make fording the Usee River extremely dangerous.	High risk: Water levels are not expected to drop for the next 48 hours.	Consider making bridge security a key enabler and evaluating sites for deploying three armored vehicle-launched bridges during phase I of the operation.
Intelligence estimate Synchronization plan	Host nation 125th infantry brigade lacks electronics intelligence collection capability	High risk: Intelligence collection of enemy forces in 125th Infantry Brigade's sector is extremely limited. Confidence in knowledge of enemy force size, capability, and intention is low.	Consider designating 305th Military Intelligence Battalion under operational control of, or in primary support of, 125th Infantry Brigade until phase III of the operation.
Fires estimate	TBP (to be prepared)	TBP	TBP
Sustainment estimate	TBP	TBP	TBP
Protection estimate	TBP	TBP	TBP

Develop the Initial Information Collection Plan

4-25. A supporting risk assessment worksheet may be prepared with the information collection plan. The risk assessment information developed along with the information collection plan is used during the conduct of intelligence, surveillance, reconnaissance, and security. Gaps in the information collection plan lead to increased risk. Therefore, controls are needed to mitigate or eliminate such risk. Controls may be applied to—

- Surveillance and reconnaissance assets.
- Task organization shortfalls.
- Fire support coordination measures.
- Medical evaluation provisions.

Update Plan for the Use of Available Time

4-26. As updated information arrives, the commander and staff examine the mission and its associated tasks within the allocated time line. Commanders should provide adequate planning time at lower echelons. From the aspect of tactical risk, the windows of opportunity may be fleeting, not always allowing for formal RM integration.

4-27. Army leaders should avoid executing certain tasks during periods when exposure will be the greatest. From a risk perspective, hazards caused by terrain and weather conditions may be equal to or greater than those posed by enemy forces.

Develop Initial Themes and Messages

4-28. Commanders and their units coordinate what they do, say, and portray through themes and messages. A theme is a unifying or dominant idea or image that expresses the purpose for military action. Themes tie to objectives, lines of effort, and end state conditions. All of these incorporate a risk versus reward determination by the commander. Coordinating themes and messages can reduce risk and amplify possible reward.

Develop a Proposed Problem Statement

4-29. A problem is an issue or obstacle that makes it difficult to achieve a desired goal or objective. The problem statement is the description of the primary issue or issues that may impede commanders from achieving their desired end states.

Develop a Proposed Mission Statement

4-30. The chief of staff (or executive officer) or operations officer prepares a proposed mission statement for the unit based on the mission analysis. The commander receives and approves the unit's mission statement, normally during the mission analysis briefing.

Present the Mission Analysis Briefing

4-31. During the mission analysis briefing, staff members present relevant information that supports accurate situational understanding. Each staff section provides relevant risk assessment information that demonstrates the hazards identified, proposed controls, and how the controls will affect mission accomplishment. In some cases, initial risk assessment information may be general. However, during COA development and analysis, staffs expand and refine the information. Any staff section can use a simple risk briefing matrix (illustrated in table 4-3) to present initial risk assessments for the mission analysis. An in-depth assessment of hazards need not be specified separately at this time. The thorough assessment of the hazards and control implementation capability may not be possible without further staff coordination. For the mission analysis briefing, the focus is on giving the commander relevant information that includes hazards that could jeopardize the mission. This briefing should help other sections in coordinating efforts for mitigating identified hazards and developing effective controls.

Table 4-3. Sample staff section risk briefing matrix

Intelligence staff section (G-2 or S-2) risk assessment	*Hazards identified*	*Proposed controls*
Battlefield and effects	Artillery fire on south side of OBJECTIVE WOLF could cause a snow slide that would make ROUTE TANGO impassable for an extended period.	Ensure the large-caliber artillery targets only fire into the northern portions of OBJECTIVE WOLF. Use direct-fire, lethal weapons on targets on the south side of OBJECTIVE WOLF.
Enemy combat power	If the reinforcement motorized rifle regiment rapidly moves northward through the Carerine Pass during phase II, critical resupply may be destroyed before 1–1 Cavalry secures ROUTE WHISKEY.	Task 1–1 Cavalry to the start point en route to the blocking positions south of ROUTE WHISKEY as soon as the reconnaissance elements clear to PHASE LINE TOM.
Intelligence-gathering capabilities and gaps	Jamming may deny friendly unmanned aircraft system coverage in SECTOR ALPHA.	Task the 2nd Combat Aviation Brigade to provide an on-order mission to screen the southern flank of friendly troops throughout phase III.
Enemy intelligence-gathering capability	Enemy electronic surveillance capability is unknown.	Limit radio traffic to authorized transmissions using secure means of encryption. Offset mobile repeaters and radio frequency jammers through line-of-site areas set as protection priority, before main body movement through them.

Develop and Issue Initial Commander's Intent

4-32. The commander's intent is one of the most important portions of an order. It includes the operation's purpose, key tasks, and conditions that define the desired end state. It links the mission, concept of operations, and tasks to subordinate units. A clear commander's intent facilitates a shared understanding and focuses on the overall conditions that represent mission accomplishment. During execution, the commander's intent spurs disciplined initiative within set parameters.

4-33. The *end state* is the set of required conditions that defines achievement of the commander's objectives (JP 3-0). It may include unit strength and readiness. Army leaders should make risk decisions with the commander's intent in mind.

Develop and Issue Initial Planning Guidance

4-34. The commander's planning guidance may be written or oral. In either form, it is imperative that the commander clearly state and define any risk guidance. This will ensure complete understanding and avoid miscommunication. The planning guidance may include risk tolerance as well as other guidance directly related to RM.

Develop Course of Action Evaluation Criteria

4-35. Evaluation criteria address factors that contribute to success or failure. They normally include risk criteria and support COA analysis and comparison. The commander may place much more weight on one or more criteria, depending on the intent and guidance from the higher echelon commanders.

Issue a Warning Order

4-36. The staff places special emphasis on alerting subordinate units to any special controls that will require extensive preparation time. Some of the planning time gained by subordinate units may be used to identify hazards, develop controls, and devise the most efficient means of control implementation. (Refer to figure 4-1, page 4-4, for an example of RM information included in a WARNORD.)

Review Facts and Assumptions

4-37. For the remainder of the MDMP, the commander will conduct periodic review of all facts and assumptions. From the RM perspective, the commander and staff should remain alert to any changes in the mission variables that could increase or decrease the level of risk for an operation. Each staff section looks for situations that could create more hazards or change the effectiveness of existing controls.

STEP 3 OF THE MDMP–COURSE OF ACTION DEVELOPMENT

4-38. During the mission analysis, RM practitioners focus on identifying and assessing hazards (steps 1 and 2 of RM). In COA development, RM practitioners continue to identify and assess hazards but also begin to develop controls and make risk decisions.

Evaluation Criteria for Courses of Action

4-39. Planners evaluate COAs and their associated control options for managing risk, using the criteria outlined in ATTP 5-0.1:

- Feasibility.
- Acceptability.
- Suitability.
- Distinguishability.
- Completeness.

Feasibility

4-40. The COAs are considered feasible if they can be completed within the parameters of the time, space, and other resources available to the operation.

Acceptability

4-41. In the context of RM, acceptability refers to risk tolerance (defined in paragraph 1-6). Army forces measure levels of risk as extremely high, high, medium, or low (described in paragraphs 1-42 through 1-46). The levels express the probability and expected severity of a hazardous event. Commanders refer to the risk assessment matrix (table 1-1, page 1-7) as they establish the risk tolerance for the mission. Planners refer to the risk assessment matrix to estimate the level of risk for identified hazards related to each COA. For commanders and staffs to consider a COA acceptable, the residual level of risk (the combination of probability and expected severity of a hazardous event) should be equal to or below the risk tolerance. For example, if the commander establishes a risk tolerance of medium, acceptable COAs must have estimated risk levels of medium or low. Risk levels can change as planners propose control options and reassess probability and severity (see steps 2 and 3 of the process, in chapter 1).

Suitability

4-42. COAs must be appropriate and fitting for the task or mission. Even if the level of risk for a particular COA, with its proposed controls, meets acceptability criteria, the COA may not be suitable. For example, a control that requires additional time or resources or likely will have a negative impact on future operations may not be suitable.

Distinguishability

4-43. Each COA should differ significantly from other COAs. The use of reserves, task organization, timing, and the maneuver scheme all affect mission accomplishment and the residual risks. Planners must consider each independently in terms of the level of risk or potential benefits.

Completeness

4-44. Each COA must be a stand-alone description of tasks necessary for success in current and subsequent operations. Although referring to previous risk assessments is sometimes appropriate, planners should analyze each situation. They should not reuse previous assessments heedlessly. Even when situations are similar, previous assessments likely will need modification.

Subordinate Processes of COA Development

4-45. Development of a COA involves eight subordinate processes (see ATTP 5-0.1). Paragraphs 4-47 through 4-55 discuss selected RM considerations for each subordinate process.

Assess Relative Combat Power

4-46. Army commanders conceptualize capabilities in terms of combat power. Army forces generate combat power by converting potential into effective action. The elements of combat power are leadership, information, mission command, movement and maneuver, intelligence, fires, sustainment, and protection. The goal is to continuously generate and apply combat power to accomplish the mission at minimal cost. The command uses RM to minimize loss and maintain capability for current and subsequent missions.

4-47. To assess relative combat power, planners initially make a rough estimate of force ratios of available maneuver units. Planners then compare friendly strengths against enemy weaknesses, and vice versa, for each element of combat power. From these comparisons, they may find particular vulnerabilities an enemy could exploit; these will need protection. These weaknesses are equivalent to hazards, and planners need to apply RM to them.

Generate Options

4-48. Based on the commander's guidance and the initial results of relative combat power assessment, the staff generates options. Options focus on enemy COAs arranged in order of their most probable adoption or on those stability tasks that are most essential to prevent the situation from deteriorating. The staff determines sustainment and controls needed to create and maintain combat power for the decisive operation and shaping operations. The staff should coordinate to ensure optimal use of assets for risk mitigation.

Optimal risk reduction measures are often found at the most fundamental levels of operational development.

Array Forces

4-49. For each option, the initial array identifies the number of units needed and possible ways to execute tasks of decisive action. If the number of units arrayed exceeds the number available, and the difference cannot be compensated for with other factors, the staff determines whether the COA is feasible. Ways to decrease identified risks during this step may include requesting additional resources, executing tasks required for the COA sequentially rather than simultaneously, or transferring the risk to an area with reduced likelihood of exposure.

Develop a Broad Concept

4-50. The broad concept describes how arrayed forces will accomplish the mission within the commander's intent. It concisely expresses the *how* of the commander's visualization. It will provide the framework for the concept of operations. Larger risk controls, such as specific force alignment and general mission guidance may be contained within the broad concept. This will eliminate the requirement to implement smaller, less effective controls later in the process and at lower levels of command. This should save planning time for the commander and staff.

Assign Headquarters

4-51. After determining the broad concept, planners create a task organization by assigning forces to HQ. They consider the types of units to be assigned to the HQ and its ability to control them. Planners consider organic staff and internal support capabilities. This ensures the commander has the assets needed. To ensure success, planners identify larger hazards and their associated risks and assign the command best able to mitigate or eliminate them.

Develop COA Statements and Sketches

4-52. The COA statement clearly portrays how the unit will accomplish the mission. The RM focus should be on the overall risk. A paragraph titled *Risk* may be included as the last paragraph of each COA. Should the commander require more detailed information concerning specific hazards and controls, each staff section's risk assessments—or the overall mission risk assessment—should be ready for review and further development.

Conduct COA Briefing

4-53. A COA briefing will include several areas (see ATTP 5-0.1). RM will be imbedded within many of these areas. A comparison chart of COA strengths and weaknesses may focus on risks and will give the commander enough information to formulate questions and make assumptions based on information already known. The COA briefing further informs the command and may lead to further staffing and requests for information from the higher HQ. Enough time must be added into the planning cycle to act on new guidance. An overall COA risk assessment is useful for the commander to pinpoint those areas requiring additional consideration and action.

Select or Modify COAs for Continued Analysis

4-54. After the COA briefing, the commander selects or modifies those COAs for continued analysis. This may include or be limited to adjusting the COA to better address risk. The commander also issues planning guidance to the staff, such as time limitations or a change in commander's intent. If commanders reject all COAs, the staff begins again with the commander's guidance. If the commander accepts one or more of the COAs, staff members begin COA analysis. The commander may create a new COA by incorporating elements of one or more COAs developed by the staff. The staff then prepares to war-game this new COA. The staff incorporates RM into any directed modifications and ensures all staff members understand the new or modified COA. During this period, conditions may have changed. The staff at all levels should continually manage risk.

STEP 4 OF THE MDMP–COURSE OF ACTION ANALYSIS

4-55. The discussion of steps 1, 2, and 3 of RM on pages 1-4 through 1-14 applies to COA analysis.

STEP 5 OF THE MDMP–COURSE OF ACTION COMPARISON

4-56. The discussion of step 3 of RM on pages 1-10 through 1-14 applies to COA comparison.

STEP 6 OF THE MDMP–COURSE OF ACTION APPROVAL

4-57. The discussion of step 3 of RM on pages 1-10 through 1-14 applies to COA approval.

STEP 7 OF THE MDMP–ORDERS PRODUCTION, DISSEMINATION, AND TRANSITION

4-58. The discussion in chapter 1 on the steps of RM applies to orders production. Figure 4-1, page 4-4, illustrates a sample WARNORD. Chapter 3 contains additional information about WARNORDs and RM. Appendix A provides sample tactical scenarios with sample DD Forms 2977.

Appendix A

Sample DD Form 2977 and Instructions

This appendix discusses requirements for documenting deliberate risk management. It describes the overall structure of the prescribed form. It supports application of risk management techniques in tactical tasks by illustrating use of the prescribed form.

DOCUMENTING RISK MANAGEMENT

A-1. DD Form 2977 is the Army's standard form for deliberate risk assessment. Aviation; explosive; chemical, biological, radiological, or nuclear; and other highly technical activities may require additional specialized documentation. However, when coordination may occur across sections or commands, DD Form 2977 is the standard for the majority of Army operations. It allows units to track hazards and risks in a logical manner. Army forces use this form to document risk management (RM) steps taken during planning, preparation, and execution of any type of operation, including training and combat. DD Form 2977 is designed for the entire Army and the other Services. It provides standardization for joint operations and assignments. It may be filled out electronically or free hand. It is the standard way of capturing the information analyzed during the five steps of RM. It helps the user in thinking through the five steps and then sharing the resulting assessment. It is a living document. Pen and pencil changes on hard copies are acceptable and encouraged since changes will occur during operations.

STRUCTURE OF THE FORM

A-2. DD Form 2977 is available electronically at the Official Web Site for Department of Defense Forms. DD Form 2977 consists of three or more pages (see examples in figures A-1 through A-6, beginning on page A-4). The first page provides areas for identifying the operation or mission, preparer information, an area to capture information used in the five steps of RM, identification of the overall residual risk level, and approval authority information. Block 1 (*Mission/Task Description*) should include the date or dates of the mission, whereas block 2 (*Date*) expresses the date the form was prepared. Blocks 4 through 9 may be reproduced or reduced by row through the use of the (+) and (-) buttons. New rows will be placed below all existing rows and reductions will always occur from the top. The user may reproduce these blocks as many times as needed to capture all tasks, subtasks, and identified hazards. The second page provides a standard risk assessment matrix, an area for review (used for ongoing operations), an area to capture feedback and lessons learned, and an area for additional comments or remarks. The third page provides instructions for completing each block of the form. Several blocks will expand in order to capture all input from the preparer or approval authority. Block expansion, coupled with additional blocks 4 through 9 will often result in additional form pages. Page numbers, found at the bottom of the pages, will change as needed to account for expansion.

EXAMPLES OF OPERATIONAL USE OF DD FORM 2977

A-3. This appendix presents a road march scenario, an aviation scenario, and a tactical field artillery scenario. Each scenario is accompanied by a form with sample data.

APPLICATION OF RISK MANAGEMENT IN TACTICAL TASKS

A-4. RM is a universal process used for managing risk at every level of effort from the individual to large units or organizations. Its application is blind to the cause of the hazard. Whether it comes directly as the result of an enemy action or threat-based activity or as the result of other factors (hazard-based), RM attempts to identify, assess, and control factors that may adversely affect the capabilities of a military unit

or organization. Additionally, RM application ensures the leader at the appropriate level approves the action or operation.

Note. The risk approval authority may be different within different theatres or commands. Commanders may reserve the right to approve certain missions (despite a lower residual risk).

A-5. This appendix provides general, notional examples. They are not deliberate risk assessments that have been used in operations. To view deliberate RM worksheets that have been used in operations, access the current RM tool at the United States Army Combat Readiness/Safety Center Web site.

TACTICAL ROAD MARCH SCENARIO

A-6. This notional tactical road march scenario, page A-3, is the basis for the sample DD Form 2977 illustrated in figures A-1 and A-2, pages A-4 and A-5.

Conduct a Tactical Road March

Unit's mission. Company A, 3-69 Armor, conducts a tactical road march along ROUTE PACKERS to occupy the zone of separation designated by the United Nations no later than 03002Z July 20XX, to conduct peace enforcement operations.

Situation. The battalion intelligence staff officer produced an intelligence overlay indicating the presence of many known (marked) and unknown (unmarked) minefields throughout your area of operations and spanning your route of march. Intelligence indicates enemy armed forces are operating in three- to five-person reconnaissance teams. Contact with the enemy is unlikely, but if made, the enemy is expected to break contact and not fight.

Conditions. As the company commander of A Company, 3-69 Armor, you have just received a warning order dated 011400 July 20XX from your battalion commander. The unit has been in country for ten days and is combat-ready. The battalion conducted extensive predeployment training. It is prepared for the terrain, consisting of moderately sized rolling hills and cool, wet conditions. The roads are unimproved, with sharp curves and steep embankments. Temperatures have been in the mid-50s to 60s during the day and mid-40s at night, with four straight days of rain.

Facts.

- The company commander and platoon leaders have been assigned ten months.
- The company is task-organized into two tank platoons and one mechanized platoon with an engineer section (with combat engineer vehicles and armored combat earthmovers, an air defense artillery section, and a military police section).
- The two tank platoons do not have mine rollers.
- The two tank platoons and mechanized platoon are used to working together.
- The other elements were assigned when you entered the theater.
- All vehicles are in good condition.
- Map reconnaissance indicates the objective is 20 kilometers away.

Mission analysis.

- Terrain and weather. The roads are unimproved, with sharp curves and steep embankments. They are generally bordered by open terrain that would provide little cover and concealment for dismounted troops. The weather forecast calls for rain to continue several days. Overcast conditions will limit natural illumination.
- Enemy. Enemy armed forces are operating in three-to-five person reconnaissance teams equipped with direct weapons (individual weapons, machine guns, and a very limited number of outdated anti-tank rockets and anti-armor weapons).
- Troops. Experience level is high within the tank and mechanized units. The experience level of the troops recently attached to you is unknown.
- Civil considerations. The area is sparsely populated and the local nationals are supportive of our mission.
- Time. 13 hours to start point.

Risk assessment.

- Threat-based risks. Land mine potential; small arms antitank rocket ambush.
- Hazard-based risks. Rain and cold, limited visibility, limited surface traction, narrow roads, fatigue of troops, and inexperienced personnel.

DELIBERATE RISK ASSESSMENT WORKSHEET

1. MISSION/TASK DESCRIPTION	2. DATE *(DD/MM/YYYY)*
Conduct Tactical Road March (Rte. Packers) (02/07/20XX - 03/07/20XX)	01/07/20XX

3. PREPARED BY

a. Name (Last, First Middle Initial)	b. Rank/Grade	c. Duty Title/Position
Smith, John Q.	1LT / 0-2	Platoon Leader

d. Unit	e. Work Email	f. Telephone *(DSN/Commercial (Include Area Code))*
A/3-69 AR	john.q.smith.mil@mail.mil	000-5456 / (555) 000-5456

g. UIC/CIN *(as required)*	h. Training Support/Lesson Plan or OPORD *(as required)*	i. Signature of Preparer
W3YTAA	OPORD XX-001	DIGITAL SIGNATURE 123456789

Five steps of Risk Management: (1) Identify the hazards (2) Assess the hazards (3) Develop controls & make decisions (4) Implement controls (5) Supervise and evaluate *(Step numbers not equal to numbered items on form)*

	4. SUBTASK/SUBSTEP OF MISSION/TASK	5. HAZARD	6. INITIAL RISK LEVEL	7. CONTROL	8. HOW TO IMPLEMENT/ WHO WILL IMPLEMENT	9. RESIDUAL RISK LEVEL
+ -	N/A	Land mines	H	Move clearing teams to front of convoy.	How: SOP and Rehearsal Who: Platoon Leader	M
+ -	N/A	Limited visibility (Night Operations)	H	Reduce vehicle speed and increase vehicle spacing. NVG use mandated for drivers.	How: PCI and Rehearsal Who: Platoon Leader	M
+ -	N/A	Surface traction capability	H	Reduce vehicle speed and increase vehicle spacing.	How: OPORD and Rehearsal Who: Platoon Leader	M

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SAMPLE

Figure A-1. Sample DD Form 2977 for tactical road march scenario (page 1)

	4. SUBTASK/SUBSTEP OF MISSION/TASK	5. HAZARD	6. INITIAL RISK LEVEL	7. CONTROL	8. HOW TO IMPLEMENT/ WHO WILL IMPLEMENT	9. RESIDUAL RISK LEVEL
+ -	N/A	Road width	M	Set map control check points.	How: OPORD and Rehearsal Who: Platoon Leader	L
+ -	N/A	Rain and cold	M	Ensure all personnel have and wear rain gear, extra dry socks, and gloves.	How: PCI and Rehearsal Who: Each Platoon Sergeant	L

10. OVERALL RESIDUAL RISK LEVEL *(All controls implemented)*:

☐ EXTREMELY HIGH ☐ HIGH ☒ MEDIUM ☐ LOW

11. OVERALL SUPERVISION PLAN AND RECOMMENDED COURSE OF ACTION

Leaders will brief all identified hazards and associated controls at briefings, check equipment requirements during PCIs, and review all likely scenarios during rehearsals. Any unresolved issues will be elevated through the chain of command.

12. APPROVAL OR DISAPPROVAL OF MISSION OR TASK ☒ Approve ☐ Disapprove

a. Name (Last, First, Middle Initial)	b. Rank/Grade	c. Duty Title/Position	d. Signature of Approval Authority
Doe, John J.	LTC / O-5	Battalion Commander	DIGITAL SIGNATURE 123456789

e. Additional Guidance:

Company commander provides status update to BN S-3 prior to LD.

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SAMPLE

Figure A-2. Sample DD Form 2977 for tactical road march scenario (page 2)

TACTICAL AVIATION SCENARIO

A-7. This notional tactical aviation scenario, page A-6, is the basis for the sample DD Form 2977 illustrated in figures A-3 and A-4, pages A-8 and A-9. The sample illustrates only the first two pages of the form.

Relocate a Forward-Area Refueling Point

Unit's Mission. The petroleum, oils, and lubricants (POL) and ordnance platoon (3-5 Platoon), F Company, 1-3 Combat Aviation Brigade (CAB) (Attack), will conduct forward area refueling point (FARP) operations to support a nighttime AH-64D Apache Longbow deep attack mission. The FARP will relocate using four 2-3 CAB UH-60 Black Hawk helicopters. Movement will be from (NK 560029) to (NK 598031) and have the FARP operational no later than 040230 Sep XX. Expected operation at location will be 12–24 hours.

Situation. The Peoples' Army of Moldavia has stepped up operational tempo in your area. Since their last forward advance, enemy artillery has become a greater threat to the assets of 3rd CAB. Enemy strength continues to increase with new conscripts. Friendly patrols have discovered new enemy positions constructed for air defense artillery or surface-to-air missiles. If enemy sites become operational, friendly aviation operations will be in serious jeopardy.

Conditions. The F Company 3-5 Platoon leader was at the National Training Center two weeks and has been conducting tactical tasks only three days. It is now 032100 Sep XX, and orders are to emplace a jump FARP and have it operational by 040230 Sep XX. Four UH-60s are on site to move all equipment and eight personnel to the location. There are four 500-gallon fuel blivets, and the requirement is to operate four refueling points at once, using two forward air refueling equipment systems. The platoon is seriously over-extended, with other commitments to the battalion and only eight people to accomplish this mission. Two have recently transferred in from 16th CAB, have had minimal training with the unit, and have never conducted FARP operations with AH-64Ds. The weather has been dry and hot, with no forecasted precipitation. The temperature is averaging 93 degrees Fahrenheit during the day and 68 degrees Fahrenheit at night. There will be moderate illumination during the operation.

Facts. As the 3-5 Platoon leader for the four months, you have planned and participated in two field training exercises before this National Training Center rotation. The squad leaders have conducted risk assessments; therefore, you know the following:

- Results from the safety risk assessment identified 10 percent of the platoon's Soldiers at a high or extremely high risk level for accidents (below standards due to lack of training and self-discipline issues).
- The platoon has supported numerous FARP and POL support missions over the past year, but only two were night operations using night-vision devices.
- The new FARP location has sparse vegetation and scrub brush. Dust and brownout conditions are likely. No one from the platoon is familiar with this site.

Mission analysis.

- Mission. Relocate FARP operations to support an AH-64 night deep attack.
- Enemy. Possesses indirect artillery with capability to effectively engage jump FARP site and possible air defense artillery and surface-to-air missile capabilities. Enemy scout elements with modified civilian pick-up trucks and small arms may be in the area.
- Terrain. Plateau affords easy access, but is exposed on all sides. The weather is dry and hot, with no forecasted precipitation. The temperature is averaging 93 degrees Fahrenheit during the day and 68 degrees Fahrenheit at night. There will be moderate moon illumination throughout the operational time period.
- Troops. Two of your troops have little or no experience performing this task. Most of the Soldiers are first term enlistees with less than 3 years of service. Previous training assessments indicate acceptable levels of proficiency for six of the Soldiers. Number of available Soldiers to accomplish the mission is limited due to over extended support commitments.
- Time. Lack of training time due to enemy threat.

Risk assessment.

- Threat-based risks. Air defense artillery threat; terrain exposed to enemy fire (direct and indirect).
- Hazard-based risks. insufficient and inexperienced personnel; limited visibility and unfamiliar terrain.

DELIBERATE RISK ASSESSMENT WORKSHEET

1. MISSION/TASK DESCRIPTION	2. DATE *(DD/MM/YYYY)*
Relocate and Conduct Jump FARP Ops. (04/09/20XX)	03/09/20XX

3. PREPARED BY

a. Name (Last, First Middle Initial)	b. Rank/Grade	c. Duty Title/Position
Public, Robert W.	1LT / 0-2	3/5 Platoon Leader

d. Unit	e. Work Email	f. Telephone *(DSN/Commercial (Include Area Code))*
F Company, 1-3 CAB (Atk)	robert.w.public.mil@mail.mil	000-5451 / (555) 000-5451

g. UIC/CIN *(as required)*	h. Training Support/Lesson Plan or OPORD *(as required)*	i. Signature of Preparer
W3YTAA	OPORD XX-001	DIGITAL SIGNATURE 123456789

Five steps of Risk Management: (1) Identify the hazards (2) Assess the hazards (3) Develop controls & make decisions (4) Implement controls (5) Supervise and evaluate *(Step numbers not equal to numbered items on form)*

	4. SUBTASK/SUBSTEP OF MISSION/TASK	5. HAZARD	6. INITIAL RISK LEVEL	7. CONTROL	8. HOW TO IMPLEMENT/ WHO WILL IMPLEMENT	9. RESIDUAL RISK LEVEL
+ -	Movement, emplacement, and teardown	Aircraft loading, air movement, and aircraft unloading	H	Detailed mission briefing, crew oversight of loading, detailed pax briefings.	How: SOP and Rehearsal Who: Air Mission Commander	M
+ -	N/A	Limited visibility - Night - Dust/brownout	H	Ensure use of prevailing winds. Ensure NVGs are issued and used. Inverted Y used.	How: SOP and Rehearsal Who: Platoon Leader	M
+ -	FARP operations	Enemy ground attack	EH	Security team attached to platoon. Construct hasty fighting positions upon arrival. Attack aircraft contact information on hand.	How: OPORD tasking and Rehearsal Who: Company Commander	M

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SAMPLE

Figure A-3. Sample DD Form 2977 for tactical aviation scenario (page 1)

	4. SUBTASK/SUBSTEP OF MISSION/TASK	5. HAZARD	6. INITIAL RISK LEVEL	7. CONTROL	8. HOW TO IMPLEMENT/ WHO WILL IMPLEMENT	9. RESIDUAL RISK LEVEL
+ -	N/A	Inexperienced, under-trained, and undisciplined Soldiers	H	Team more experienced Soldiers with less experienced Soldiers.	How: Team roster and Rehearsal Who: Platoon Leader	M
+ -	N/A	Enemy artillery threat	H	Rehearse react to artillery fires. Ensure chemical detection and ID equipment is on hand. Silent FARP procedures. No white light use.	How: PCI and Rehearsal Who: Each Platoon Sergeant	M

10. OVERALL RESIDUAL RISK LEVEL *(All controls implemented)*:

☐ EXTREMELY HIGH ☐ HIGH ☒ MEDIUM ☐ LOW

11. OVERALL SUPERVISION PLAN AND RECOMMENDED COURSE OF ACTION

The addition of a small security force is critical to the operation. Brigade S-3 has coordinated the addition. Rehearsal and communications is critical to mission success. Recommend approval based upon S-2 assessment of threat level to future aviation operations in the area.

12. APPROVAL OR DISAPPROVAL OF MISSION OR TASK ☒ Approve ☐ Disapprove

a. Name (Last, First, Middle Initial)	b. Rank/Grade	c. Duty Title/Position	d. Signature of Approval Authority
Smith, John A.	LTC / O-5	Battalion Commander	DIGITAL SIGNATURE 123456789

e. Additional Guidance:

Mission will not depart without approved security team integrated, all members briefed, and rehearsal completed. Battalion Commander or S-3 will oversee the rehearsal.

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SAMPLE

Figure A-4. Sample DD Form 2977 for tactical aviation scenario (page 2)

TACTICAL FIELD ARTILLERY SCENARIO

A-8. This notional field artillery scenario, page A-9, is the basis for the sample DD Form 2977 illustrated in figures A-5 and A-6, pages A-12 and A-13. Only the first two pages of the sample form are shown.

Glossary

The glossary lists acronyms and terms with Army or joint definitions. Where Army and joint definitions differ, (Army) precedes the definition. Terms for which ATP 5-19 is the proponent publication are marked with an asterisk (*). The proponent publication for other terms is listed in parentheses after the definition.

SECTION I – ACRONYMS AND ABBREVIATIONS

AAR	after action review
ADP	Army doctrine publication
ADRP	Army doctrine reference publication
AR	Army regulation
ATP	Army techniques publication
ATTP	Army tactics, techniques, and procedures
COA	course of action
DA	Department of the Army
DD	Department of Defense
EH	extremely high
FM	field manual
FRAGORD	fragmentary order
H	high
HQ	headquarters
IPB	intelligence preparation of the battlefield
L	low
JP	joint publication
M	medium
MDMP	military decisionmaking process
METL	mission-essential task list
METT-TC	mission, enemy, terrain and weather, troops and support available, time available, and civil considerations
MIL-STD	military standard
OPORD	operation order
pam	pamphlet
PMESII-PT	political, military, economic, social, information, infrastructure, physical environment, and time
PPE	personal protective equipment
RM	risk management
S-3	operations staff officer
SOP	standard operating procedure

TLP	troop leading procedures
WARNORD	warning order

SECTION II – TERMS

Army leader

Anyone who by virtue of assumed role or assigned responsibility inspires and influences people to accomplish organizational goals. Army leaders motivate people both inside and outside the chain of command to pursue actions, focus thinking and shape decisions for the greater good of the organization. (ADP 6-22)

commander's intent

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

***control**

(Army) An action taken to eliminate a hazard or to reduce its risk.

end state

The set of required conditions that defines achievement of the commander's objectives. (JP 3-0)

***exposure**

The frequency and length of time personnel and equipment are subjected to a hazard or hazards.

fratricide

The unintentional killing or wounding of friendly or neutral personnel by friendly firepower. (ADRP 3-37)

hazard

A condition with the potential to cause injury, illness, or death of personnel; damage to or loss of equipment or property; or mission degradation. (JP 3-33)

intelligence preparation of the battlefield

A systematic process of analyzing and visualizing the portions of the mission variables of threat, terrain, weather, and civil considerations in a specific area of interest and for a specific mission. By applying intelligence preparation of the battlefield, commanders gain the information necessary to selectively apply and maximize operational effectiveness at critical points in time and space. (FM 2-01.3)

military decisionmaking process

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

mission command

(Army) The exercise of authority and direction by the commander using mission orders to enable disciplined initiative within the commander's intent to empower agile and adaptive leaders in the conduct of unified land operations. (ADP 6-0)

mission command warfighting function

The related tasks and systems that develop and integrate those activities enabling a commander to balance the art of command and the science of control in order to integrate the other warfighting functions. (ADRP 3-0)

operations process

The major mission command activities performed during operations: planning, preparing, executing, and continuously assessing the operation. (ADP 5-0)

***probability**

The likelihood an event will occur; it is assessed as frequent, likely, occasional, seldom, or unlikely.

risk

Probability and severity of loss linked to hazards. (JP 5-0)

risk assessment

The identification and assessment of hazards (first two steps of risk management process). (JP 3-07.2)

***risk decision**

A commander, leader, or individual's determination to accept or not accept the risk(s) associated with an action he or she will take or will direct others to take.

risk management

The process of identifying, assessing, and controlling risks arising from operational factors and making decisions that balance risk cost with mission benefits. (JP 3-0)

***risk tolerance**

The level of risk the responsible commander is willing to accept.

running estimate

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

***severity**

The expected consequences of an event in terms of injury, property damage, or other mission-impairing factors; it is assessed as catastrophic, critical, moderate, or negligible.

troop leading procedures

A dynamic process used by small-unit leaders to analyze a mission, develop a plan, and prepare for an operation. (ADP 5-0)

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All URLs were accessed on 5 February 2014.

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These documents must be available to intended users of this publication.

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RELATED PUBLICATIONS

These documents contain relevant supplemental information.

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ATP 5-19
14 April 2014

By order of the Secretary of the Army:

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