

Appendix J

RISK MANAGEMENT

Risk management is integrated into the military decision-making process. (See Chapter 5.) When assessing the risk of hazards in operations, the commander and staff must look at two kinds of risk, tactical risk and accident risk.

Tactical risk is risk associated with hazards that exist due to the presence of the enemy on the battlefield. The consequences of tactical risk take two forms. The first is if the enemy takes action in an area where the commander has accepted risk, for example, an enemy attack where the friendly commander is conducting economy of force operations in order to mass the effects of combat power elsewhere. The second is one of lost opportunity, for example the commander takes risk in moving forces across restricted terrain to gain the advantage of surprise, but is unable to mass the effects of combat power because the unit is unable to rapidly traverse the terrain. The commander alone determines how and where he is willing to take tactical risk.

Accident risk includes all operational risk considerations other than tactical risk, and can include activities associated with hazards concerning friendly personnel, equipment readiness, and environmental conditions. Accident hazards exist regardless of enemy action, even in the absence of an enemy force. Examples of accident hazards include personnel that are not adequately trained to conduct certain kinds of operations, equipment that is not fully operational, and environmental conditions that make operations more dangerous, such

as limited visibility and extreme cold weather. Accident risk is managed by both the commander and the staff. Staff members are constantly looking for accident hazards associated with their areas of expertise, and they recommend controls to reduce risk.

Tactical risk and accident risk may be diametrically opposed. The commander may accept a high level of accident risk in order to reduce tactical risk. For example, during the seizure of the Remagen Bridge, the benefit of seizing an intact bridge over the Rhine outweighed the extremely high risk of sending soldiers across a bridge rigged for demolitions. Both types of risks are managed by the commander with assistance from his staff. Risk decisions are the sole provenance of the commander.

The same risk-management process is used to assess and evaluate both tactical and accident risks. Risk management must become a pattern of thinking—identify and assess the hazard, develop controls to reduce the risk, decide if the benefit from the operation justifies the risk, and then implement controls and supervise.

Figure J-1 is a matrix of risk management steps as they relate to each step of the MDMP.

DEFINITIONS

Hazard is any actual or potential condition that can cause injury, illness, or death of personnel; damage to or loss of equipment or property; or mission degradation.

	IDENTIFY HAZARDS	ASSESS HAZARDS	DEVELOP CONTROLS & MAKE RISK DECISION	IMPLEMENT CONTROLS	SUPERVISE & EVALUATE
RECEIPT OF MISSION	X				
MISSION ANALYSIS	X	X			
COA DEVELOPMENT	X	X	X		
COA ANALYSIS	X	X	X		
COA COMPARISON			X		
COA APPROVAL			X		
ORDERS PRODUCTION				X	
PREPARATION				X	X
EXECUTION				X	X

Figure J-1. Risk management actions integrated into the military decision-making tasks

Condition is the readiness status of personnel and equipment with respect to the operational environment during mission planning, preparation, and execution. Readiness that is below standards leads to human error, material failure, and inadequate precautions for environmental factors, which may cause accidents, fratricide, and mission degradation.

Risk is the probability of exposure to injury or loss from a hazard. Risk level is expressed in terms of hazard probability and severity.

Exposure is the frequency and length of time personnel and equipment are subjected to a hazard.

Severity is the degree of injury, property damage, or other mission-impairing factors (loss of combat power, adverse publicity) that could occur as a result of a hazard.

Controls are actions taken to eliminate hazards or reduce their risk.

Risk assessment is the identification and assessment of hazards (the first two steps of the risk management process).

Residual risk is the level of risk remaining after controls have been selected for hazards. (Controls are identified and selected until residual risk is at an acceptable level or until it cannot be practically reduced further.)

RISK MANAGEMENT STEPS

Risk management is identifying and controlling hazards to protect the force and increase the chance of

mission accomplishment. It is conducted by the commander and the staff and is applicable to any mission and environment. The five steps of risk management are:

Step 1. **Identify hazards.** Identify hazards to the force. Consider all aspects of METT-T for current and future situations. Sources of information about hazards include reconnaissance, experience of commander and staff, safety SOP, and the unit's accident history. Hazards that cannot be adequately controlled by the unit or its subordinate units, and which are most likely to result in loss of combat power, should be risk-managed. To determine this, answer the questions in Figure J-2.

Step 2. **Assess hazards.** Assess each hazard to determine the risk of potential loss based on probability and severity of the hazard. Determining the risk from a hazard is more an art than a science. Use historical data, intuitive analysis, judgment, and the matrix at Figure J-3 to estimate the risk of each hazard. The risk assessment matrix is entered from the probability column and the severity row. Probability and severity levels are estimated based on the user's knowledge of probability of occurrence and the severity of consequences once the occurrence happens. The intersection of the probability column and the severity row defines the level of risk.

Step 3. **Develop controls, determine residual risk, and make risk decision.**

a. Develop controls. For each hazard, develop one or more controls that will eliminate or reduce the risk of the hazard. Specify who, what, where, when, and how for each control. When developing controls consider the reason for the hazard, not just the METT-T

Q - Is hazard adequately controlled?		Adequate	
		YES	NO
Identified METT-T hazard	Support - Is support available (personnel, equipment, supplies, facilities) adequate to control the hazard?		
	Standards - Is guidance or procedure adequately clear, practical, and specific to control hazard?		
	Training - Is training adequate to control the hazard?		
	Leader - Are leaders ready, willing, and able to enforce standards required to control hazard?		
	Individual - Is soldier performance sufficiently self-disciplined to control hazard?		

A - If all "yes," no further action.
 - If one or more "no," risk-manage this hazard.

Figure J-2. Determining which hazards to risk-manage

		HAZARD PROBABILITY				
		Frequent	Likely	Occasional	Seldom	Unlikely
S E V E R I T Y	Catastrophic	E	E	H	H	M
	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L

HAZARD PROBABILITY (The likelihood that an event will occur)

- Frequent** - Occurs often, continuously experienced.
- Likely** - Occurs several times.
- Occasional** - Occurs sporadically.
- Seldom** - Unlikely, but could occur at some time.
- Unlikely** - Can assume it will not occur.

SEVERITY (The degree of injury, property damage, or other mission-impairing factors.)

- Catastrophic** - Death or permanent total disability, system loss, major property damage.
- Critical** - Permanent partial disability, temporary total disability in excess of three months, major system damage, significant property damage.
- Marginal** - Minor injury, lost workday accident, minor system damage, minor property damage.
- Negligible** - First aid or minor medical treatment, minor system impairment.

RISK LEVELS

- E (Extremely High)** - Loss of ability to accomplish mission.
- H (High)** - Significantly degrades mission capabilities in terms of required mission standard.
- M (Moderate)** - Degrades mission capabilities in terms of required mission standards.
- L (Low)** - Little or no impact on accomplishment of mission.

Figure J-3. Individual hazard risk assessment matrix

factor itself (Figure J-2). Effective control can be implemented through individual and collective training that ensures performance to standard. The CofS (XO) coordinates development of controls with emphasis on de-conflicting controls that affect multiple functional areas and adjacent units.

b. Determine residual risk. For each hazard, as controls are developed, revise the evaluation of the level of risk remaining (residual risk), assuming the controls for it are implemented.

c. Make risk decision. The commander alone decides whether or not to accept the level of residual risk. If the commander determines the risk is too great to continue the mission or a COA, he directs the development of additional controls, or he modifies, changes, or rejects the COA or mission.

Step 4. **Implement controls.** State how each control will be put into effect and communicated to personnel who will make it happen.

Step 5. **Supervise and evaluate.**

a. Supervise controls. Explain how each control will be monitored to ensure proper implementation.

b. Evaluate controls. Evaluate the effectiveness of each control in reducing or eliminating risk. For controls that are not effective, determine why and what to do the next time the hazard is identified. For example, in the next operation the commander and staff might change the control, develop a different control, or change how the control will be implemented or supervised. The commander and staff must fix systemic problems (Figure J-2) hindering combat effectiveness and capture and disseminate lessons learned.