

VOLUME 2**RISK MANAGEMENT****SUMMARY OF VOLUME 2 CHANGES**

Hyperlinks are denoted by *bold, italic, blue and underlined font*.

The original publication date of this Marine Corps Order (right header) will not change unless/until a full revision of the MCO has been conducted.

The date denoted by *blue font* (left header) will reflect the date this Volume was last updated.

All Volume changes denoted in *blue font* will reset to black font upon a full revision of this Volume.

CANCELLATION: The publication of this Volume cancels MCO 3500.27C.

VOLUME VERSION	SUMMARY OF CHANGE	ORIGINATION DATE	DATE OF CHANGES
ORIGINAL VOLUME	N/A	15 OCT 2020	N/A

Submit recommended changes to this Volume, via the proper channels, to the following address:

CMC (SD)
701 S. Courthouse Road
Suite 2O050
Arlington, VA 22204

DISTRIBUTION: PCN 10207241200

VOLUME 2: RISK MANAGEMENT

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION TO RISK MANAGEMENT	1-1
0101 OVERVIEW	1-2
0102 APPLICABILITY	1-2
0103 INHERENT RISK	1-2
0104 RISK MANAGEMENT.....	1-2
0105 PRINCIPLES OF RISK MANAGEMENT	1-2
010501. ANTICIPATE AND MANAGE RISK BY PLANNING.....	1-3
010502. MAKE RISK DECISIONS AT THE RIGHT LEVEL.....	1-3
010503. ACCEPT NO UNNECESSARY RISK	1-3
010504. ACCEPT RISK WHEN BENEFITS OUTWEIGH THE COST	1-4
0106 RISK MANAGEMENT FUNDAMENTALS.....	1-4
010601. RISK MANAGEMENT PROCESS	1-4
010602. LEVELS OF RISK MANAGEMENT.....	1-5
Figure 1-1: Levels of Risk Management	1-5
0107 FORMAL TERMS AND DEFINITIONS	1-6
CHAPTER 2: RISK MANAGEMENT RATIONALE	2-1
0201 OVERVIEW	2-2
0202 SCOPE	2-2
0203 WHY MANAGE RISK	2-2
020301. RISK MANAGEMENT BENEFITS FOR ENHANCED READINESS	2-2
020302. THINGS RISK MANAGEMENT DOES NOT DO	2-3

MARINE CORPS SAFETY MANAGEMENT SYSTEM

References

MCO 5100.29C

15 OCT 2020

0204	RISK MANAGEMENT AS A LEADERSHIP COMPETENCY	2-3
CHAPTER 3: RISK MANAGEMENT PROCESS		3-1
0301	OVERVIEW	3-2
	Figure 3-1: The RM Process Cycle.....	3-2
0302	PROCESS APPLICATION GUIDELINES	3-3
0303	FIVE STEPS OF THE RISK MANAGEMENT PROCESS	3-4
	030301. STEP 1: IDENTIFY HAZARDS.....	3-4
	030302. STEP 2: ASSESS HAZARDS	3-5
	Figure 3-2: Severity Categories	3-6
	Figure 3-3: Probability Categories	3-7
	Figure 3-4: Joint Risk Assessment Matrix.....	3-8
	030303. STEP 3: MAKE RISK DECISIONS	3-9
	Figure 3-5: Criteria for Effective Controls	3-10
	030304. STEP 4: IMPLEMENT CONTROLS.....	3-11
	030305. STEP 5: SUPERVISE AND EVALUATE.....	3-11
CHAPTER 4: RISK MANAGEMENT TRAINING AND EVALUATION		4-1
0401	OVERVIEW	4-2
0402	CONTINUUM.....	4-2
	Figure 4-1: RM Training Continuum.....	4-2
	040201. INDIVIDUAL.....	4-3
	040202. SUPERVISOR (NCO'S AND ABOVE).....	4-3
	040203. RISK MANAGEMENT AUTHORITY AND INSTRUCTORS	4-3
	040204. TRAINING REQUIREMENTS	4-4

MARINE CORPS SAFETY MANAGEMENT SYSTEM

References

MCO 5100.29C

15 OCT 2020

040205. TRAINING FOCUS	4-4
0403 HIGH-RISK TRAINING (HRT)	4-5
040301. BACKGROUND	4-5
040302. DEFINITION	4-5
Figure 4-2: Risk Assessment Matrix.....	4-6
040303. HIGH-RISK TRAINING EXAMPLES.....	4-6
040304. SUPERVISION, AUTHORITY, AND GUIDANCE.....	4-7

APPENDICES: RISK MANAGEMENT PLANNING TOOLS AND PROCESSES

APPENDIX A: Troop Leading Steps (BAMCIS)	A-1
APPENDIX B: Time Critical Resource Management Assess, Balance, Communicate, and Do/Debrief (ABCD) Model	B-1
APPENDIX C: Marine Corps Planning Process (MCP)	C-1

VOLUME 2: CHAPTER 1

INTRODUCTION TO RISK MANAGEMENT

SUMMARY OF SUBSTANTIVE CHANGES

Hyperlinks are denoted by *bold, italic, blue and underlined font*.

The original publication date of this Marine Corps Order (MCO) Volume (right header) will not change unless/until a full revision of the MCO has been conducted.

All Volume changes denoted in *blue font* will reset to black font upon a full revision of this Volume.

CHAPTER VERSION	PAGE PARAGRAPH	SUMMARY OF SUBSTANTIVE CHANGES	DATE OF CHANGE

CHAPTER 1

INTRODUCTION TO RISK MANAGEMENT

0101 OVERVIEW

This chapter provides an introduction to Risk Management (RM) and how RM is used to identify and assess hazards to develop mitigating controls, which are then continuously monitored and analyzed to assess their effectiveness. The focus of RM is to reduce hazards and prevent mishaps in order to preserve resources (i.e., personnel and equipment) and maintain operational readiness.

0102 APPLICABILITY

Risk Management is as important at the small unit level as it is up through the higher organizational levels. The application of RM may differ between a squad and a battalion, but the process and desired results are the same. RM should be a part of how ALL Marines think, and how they make decisions on or off the job. Everyone benefits from a force focused on operational excellence that proactively looks to identify hazards, assess risks, and implement controls. Doing so protects Marines and equipment during training and operations.

0103 INHERENT RISK

Risk is inherent in every phase of tasking, specific mission execution, and overall operations due to today's complex and dynamic environment. Off-duty activities present their own set of hazards and risks, and off-duty "mission success" is much more likely with the continuous application of RM processes and principles. With hazards and risks present both on and off-duty, it is incumbent upon all Marines, both military and civilian, to understand how to assess and manage risk to achieve mission success and preserve combat readiness.

0104 RISK MANAGEMENT

In its most simplified terms, RM is the process of 1) identifying hazards, 2) assessing risks associated with those hazards and 3) implementing safety controls to prevent those hazards from causing mishaps. "Safety" is the byproduct of this continuous cycle of tasks, and is increased, improved, and enhanced by this Risk Management process.

0105 PRINCIPLES OF RISK MANAGEMENT

The acceptance of risk is not an imprudent willingness to gamble, but rather a deliberate calculation that weighs the risks against potential benefits in pursuit of mission success. Four basic principles are the foundation for RM, and the framework for implementing the RM process.

- Risk is anticipated and managed by planning.
- We make risk decisions at the right level.

- We do not accept unnecessary risk.
- We accept risk when benefits outweigh costs.

It is critical to both mission accomplishment and the preservation of our Marines and assigned equipment that RM principles and processes are incorporated into all levels of planning, transition, execution, and decision-making, all the way down to the individual whether on or off duty.

010501. ANTICIPATE AND MANAGE RISK BY PLANNING

Integrating RM into planning at all levels, and as early as possible, provides the greatest opportunity to make well-informed risk decisions and to implement effective risk controls. This engaged approach enhances the overall effectiveness of RM by reducing mishaps, injuries, and costs. Hazards and controls that have been identified during reconnaissance and preplanning should be in the operations order.

010502. MAKE RISK DECISIONS AT THE RIGHT LEVEL

Risk decision is defined as the decision to accept or not accept the risk(s) associated with an action. RM decisions should be made by the commander, or individual directly responsible for the operation. While anyone can make a risk decision, the appropriate decision level should reside with the leader who has overall responsibility for the decisions to accept, eliminate, or reduce the risk. Prudence, experience, judgment, intuition, and situational awareness of leaders directly involved in the planning and execution of the mission are the critical elements in making effective RM decisions. When leaders responsible for executing a mission determine the risk associated with that mission cannot be controlled at their level, or goes beyond the commander's stated intent, the risk(s) decision shall be elevated to the next higher leader within the chain of command. If unable to mitigate the risk at the unit level, the risk decision shall be elevated to the next commander in the chain of command. It is the responsibility of the senior commander in a given chain of command to provide clear guidance to subordinate leaders on what echelons are granted authority to make specific risk decisions.

010503. ACCEPT NO UNNECESSARY RISK

Unnecessary risk is defined as risk, when considered from a potential gain relative to potential loss, which cannot be tolerated and must be eliminated or mitigated. Unnecessary risk, if taken, does not contribute meaningfully to task or mission accomplishment, and needlessly jeopardizes personnel or materiel. Risk is managed through relentless training, recognition of the risk being confronted, and a clear-eyed understanding of the mission at hand. Training, experience, and well-founded confidence directly result in increased performance and better mitigation of risk on and off duty. The RM process identifies hazards that might otherwise go unnoticed and provides tools to reduce or offset risk. End state: Decide at the right level to only take risks that are necessary to accomplish the task, activity, or mission when the benefits outweigh the risk.

010504. ACCEPT RISK WHEN BENEFITS OUTWEIGH THE COST

Acceptable risk is defined as identified risk that is understood and intentionally allowed to persist during the task or mission. Marine Corps tradition is built upon principles of seizing the initiative and taking decisive action. The goal of RM is not to eliminate risk, but rather to manage risk so the mission can be accomplished with the minimum amount of loss. The process of weighing risks against the value of the task or mission and the benefits of its completion maximizes the likelihood of success. Assessing costs and benefits requires training and experience, and is a largely subjective process supported by deliberate planning and associated planning tools and processes.

0106 RISK MANAGEMENT FUNDAMENTALS

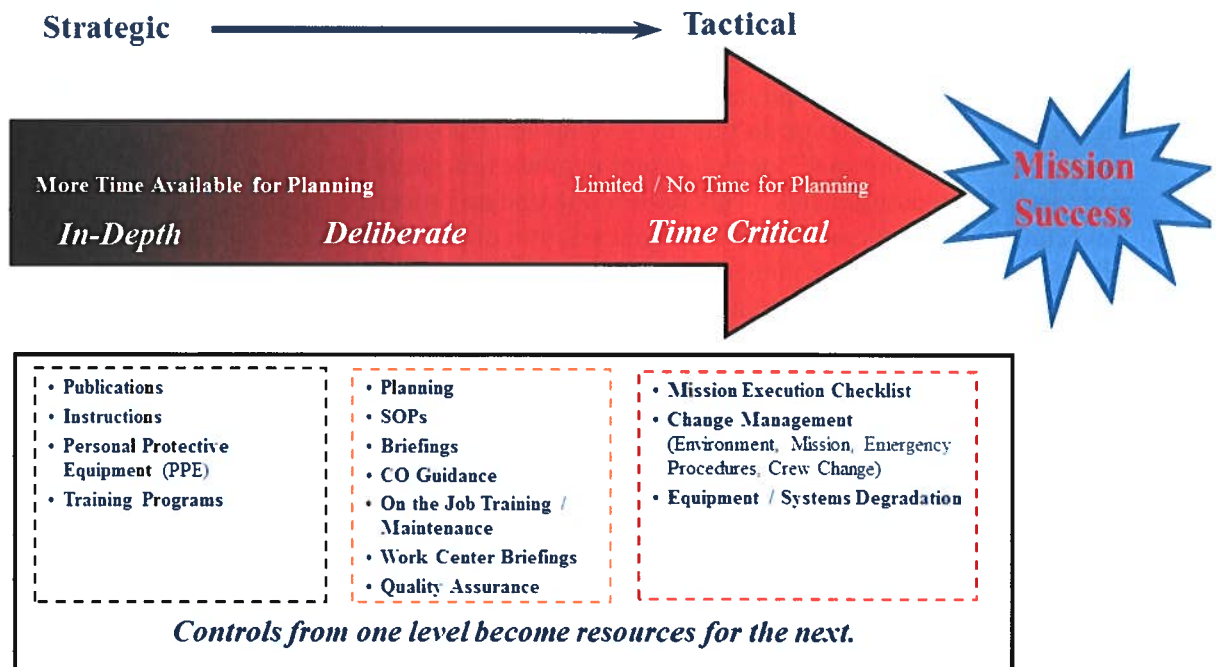
010601. RISK MANAGEMENT PROCESS

Risk management is a five step process used to identify hazards, assess the associated risks, and implement controls. It is a systematic, cyclical, and repeatable process. By using RM, organizations, leaders, and individuals are better able to make informed risk decisions that reduce or offset risk. The process is applicable across the full spectrum of tasks and missions, both on-duty and off-duty. The five steps of risk management are as follows (detailed explanation of these steps are included in Chapter 3, Risk Management Process):

1. Identify Hazards
2. Assess Hazards
3. Make Risk Decisions
4. Implement Controls
5. Supervise (and Evaluate)

010602. LEVELS OF RISK MANAGEMENT

Figure 1-1: Levels of Risk Management



A. In-Depth. The in-depth level refers to situations when available time for planning is not a limiting factor and involves a very thorough risk assessment. Tools and methods available to identify and assess hazards at this level include a thorough review of available tactical, engineering, and safety data, as well as use of diagram and analysis tools, trends, formal testing, and long-term tracking of the hazards associated with the operation or activity with the assistance of technical experts if needed. The in-depth level of RM is used to more thoroughly study the hazards and associated risk in a complex operation or system, or one in which the hazards are not well understood. Examples of in-depth applications include long-term planning of complex operations; introduction of new equipment, materials, and missions; development of tactics and training curricula; and major system overhaul or repair.

B. Deliberate. The deliberate RM level applies when there is ample time for detailed planning of a mission or task. This level uses primarily experienced personnel and brainstorming to identify hazards, review mishap trends, and develop controls. It is most effective when done in a group. The USMC Rapid Response Planning Process (R2P2) is a good example of deliberate RM. Other examples of deliberate RM include long range planning of upcoming operations; review of standard operating, maintenance, or training procedures; and the development of damage control and disaster/emergency response plans. The deliberate BAMCIS and MCPP planning processes are described in Appendix A and C of this Volume.

C. Time Critical Risk Management (TCRM). Time critical risk management is used during the execution phase of training or operations as well as in planning during crisis response scenarios. This level of planning rarely includes formal documentation or planning resources and is rapid, hasty and usually developed in 'real time' throughout execution. TCRM can and should happen as often as necessary to adapt to new or changing conditions. This real time assessing and deciding risk is quick and can be frequent, very much like we operate personally on a daily basis both on and off-duty. Changes to a risk assessment should be applied continuously to the plan and necessary updates to the plan should be briefed. At this level, sometimes there is little or no time to develop and brief a formal written plan. This usually results in an "on the spot" mental or oral review of the situation and an adjustment to previously conducted risk assessments. This review and update process is supported by the use of mission execution checklists, or drilled emergency action plans. Since time is limited, the application of the formal RM process cannot be practically applied. Therefore, to facilitate use of RM in real time while engaged in any training or operations, personnel are encouraged to use the time critical risk management, *ABCD* Model as a tool to manage time compressed decision making. The time critical risk management *ABCD* Model is described in detail in Appendix B of this Volume.

0107 FORMAL TERMS AND DEFINITIONS

A. Mishap. An unplanned event or series of events resulting in death, injury, or occupational illness; damage to or loss of equipment or property; or damage to the environment.

B. Hazard. Any real or potential condition that can cause injury, illness, or death to personnel; damage to or loss of equipment or property; degradation of mission capability or impact to mission accomplishment; or damage to the environment. (Synonymous with the term "threat.") A hazard is a mishap cause, or mishap causal factor, waiting to happen.

C. Exposure. A rating of the frequency, length of time, and percentage of people or assets subjected to a hazard. Exposure is a component of risk, but is not directly used to assign a level of risk. Rather, it is a consideration in determining probability and severity

D. Active Failure. Any errors and violations having immediate negative results; can be caused by scheduling problems, inadequate training, or lack of resources.

E. Latent Failure. Any event or presence from background circumstances in the environment surrounding a mishap, and is more endemic of something external to the immediate situation. These failures typically have contributing supervisory or organizational influences. The hazards that lead to latent failure need to be addressed by the application of a deliberate Risk Management process. Latent failures "set the stage" for an active failure to exist that then leads to a near miss or a mishap. These latent failures or conditions include deficiencies, errors, oversights, omissions, ineffective or obsolete procedural documents, ineffective material design, or unanticipated changes. Latent failures lead to active failures.

MARINE CORPS SAFETY MANAGEMENT SYSTEM

Volume 2 Chapter 1

MCO 5100.29C

15 OCT 2020

F. Additive Condition. Any items that compete for an individual or crew's attention during the execution of a task or mission. These might include: equipment malfunctions, change in weather, multiple crew members, unpredictable information, and change to the mission. Additive conditions increase task loading and uncertainty, and lead to distraction and channelized focus.

G. Task Loading. The number of tasks to be completed in a set period of time. Higher task loading increases the potential for error. Task loading can be minimized by either reducing the number of tasks or taking more time.

H. Human Factors. Mishaps rarely have a single cause, rather they are usually the end result of a series of errors. Human factors which negatively affect the capabilities of the individual, crew, or team increase the potential for errors. Human factors are defined as environmental, organizational, and job factors and human and individual characteristics which influence behavior in a way which can affect health and safety. Examples include attitudes, personalities, level of training, experience, fatigue, and physiological factors.

I. Human Error. An action or decision that results in one or more unintended negative outcomes. Human errors are the leading cause of mishaps across the Marine Corps.

J. Consequential Error. An error that leads to undesired consequences to property, personnel, or mission (e.g., mishap, personal injury, mission failure, etc.).

K. Risk. Chance of adverse outcome or bad consequence, such as failed or degraded mission, injury, illness or loss. Risk level is expressed in terms of hazard probability and severity.

L. High-Risk Training. Training which exposes personnel and trainers to the risk of death, serious injury, or permanent disability despite the presence of proper safety controls.

M. Risk Assessment. A structured process to identify and assess hazards. Risk Assessment results in an expression of potential harm, described in terms of severity, probability, and exposure to known hazards. It is accomplished in the first two steps of the RM process.

N. Risk Assessment Level. An expression of the risk associated with a hazard that combines its severity and probability into a risk assessment level that can be used to help determine hazard abatement priorities, often depicted using a risk assessment matrix.

O. Resource. Something that can be used to develop controls and includes time, money, people, and equipment. With respect to TCRM, a resource is something used to prevent errors, speed up decision making, or improve team coordination. Resources are typically applied as part of safety controls at the in-depth or deliberate levels of RM, and include policies, procedures, routines, checklists, automation, briefings, and knowledge, skills, and techniques.

P. Controls. Actions taken or measures put in place to eliminate a hazard or mitigate the associated identified risk. Some types of controls include engineering controls, administrative controls, physical controls, and Personal Protective Equipment (PPE).

Q. Engineering Control. Engineering methods to reduce risks by design, material selection, or substitution when technically or economically feasible. An example is using an extension rod for cleaning rather than climbing a ladder.

R. Administrative Control. Controls that reduce risk through specific administrative actions such as providing suitable warnings, markings, placards, signs, and notices; establishing written policies, programs, instructions, and standard operating procedures; training personnel to recognize hazards and take appropriate precautionary measures; and limiting the exposure to a hazard. An example is limiting the number of alcoholic beverages a person consumes, or a placard warning of high noise hazards and requirement to wear hearing protection in workspace.

S. Personal Protective Equipment. The final control type to use when engineering and administrative controls do not adequately mitigate the risk. An example is wearing body armor and Kevlar helmets while traveling on a main supply route, or eye and hearing protection while working on or near operating aircraft or heavy equipment

T. Residual Risk. Risk remaining after controls have been identified and applied.

U. Root Cause. Any basic underlying cause that does not have further underlying causes. A root cause is at the base or beginning of a causal chain of events where an intervention could be implemented to prevent an undesirable outcome. The analysis of a hazard may identify multiple causes; however, applying controls to the root cause is ultimately more effective than merely addressing an intermediate cause.

VOLUME 2: CHAPTER 2

RISK MANAGEMENT RATIONALE

SUMMARY OF SUBSTANTIVE CHANGES

Hyperlinks are denoted by *bold, italic, blue and underlined font*.

The original publication date of this Marine Corps Order (MCO) Volume (right header) will not change unless/until a full revision of the MCO has been conducted.

All Volume changes denoted in *blue font* will reset to black font upon a full revision of this Volume.

CHAPTER VERSION	PAGE PARAGRAPH	SUMMARY OF SUBSTANTIVE CHANGES	DATE OF CHANGE

CHAPTER 2

RISK MANAGEMENT RATIONALE

0201 OVERVIEW

This chapter covers the reasons why the risk management process is used, the benefits of the process, and what RM does not do.

0202 SCOPE

This chapter is intended for personnel of all ranks, assigned missions, and organizational levels. It is imperative that leaders at all levels understand the fundamental importance of embedding these principles within the culture of their organizations.

0203 WHY MANAGE RISK

Using the RM process provides commanders with the critical information needed to make informed decisions that reduce or offset risk, thereby increasing operational effectiveness and the probability of mission success. It is at its most basic level a systematic, continuous, cyclical process of identifying hazards, assessing associated risks, and implementing controls that mitigate and reduce those risks. The process is applicable across the spectrum of tasks and missions, both on-duty and off-duty. Failure to use RM allows unnoticed or unacknowledged and unmitigated risks to be present and to have negative effects not anticipated or planned for, significantly lowering the likelihood of a mission accomplishment without loss or damage to personnel and equipment.

020301. RISK MANAGEMENT BENEFITS FOR ENHANCED READINESS

- A. Provides a systematic structure to perform risk assessments.
- B. Enhances decision making skills based on using a systematic, reasoned, and repeatable process.
- C. Reduces risk to acceptable levels commensurate with the benefit or value of mission or task accomplishment while providing a method to effectively manage resources.
- D. Identifies feasible and effective control measures, particularly where specific standards do not exist.
- E. Provides an adaptive process for continuous feedback through the planning, preparation, and execution phases of any evolution.
- F. Preserves personnel and materiel by avoiding unnecessary risk, thus reducing mishaps and their associated consequences.

G. Enhances task and mission accomplishment by increasing the probability of success.

H. Provides improved confidence for the individuals making informed risk decisions. Detailed risk analysis provides a clear picture of hazards and allows commanders the information needed to implement effective controls.

020302. THINGS RISK MANAGEMENT DOES NOT DO

A. Does not inhibit flexibility, initiative, or accountability.

B. Does not remove risk altogether or support a “zero defect” mindset. “Zero Defect” is a mindset where mistakes are never acceptable. This mentality does not promote mission flexibility, adaptability, or improvisation, but rather mission stagnation for fear of repercussion if a mistake is made.

C. Does not remove the necessity for practice, drills, rehearsals, and the application of known tactics, techniques, and procedures.

D. Does not justify violating orders or the law.

0204 RISK MANAGEMENT AS A LEADERSHIP COMPETENCY

The Marine Corps charges all leaders to understand and teach that RM is vital to the success of any organization. Being able to envision and communicate scenarios that may occur in the lifecycle of a unit is a skill as well as an art supported by active engagement with known hazard and safety information, and safety lessons learned. Leaders at every level are ultimately responsible for everything their unit does or fails to do; their responsibility to systematically applying RM is no different.

VOLUME 2: CHAPTER 3**RISK MANAGEMENT PROCESS****SUMMARY OF SUBSTANTIVE CHANGES**

Hyperlinks are denoted by *bold, italic, blue and underlined font*.

The original publication date of this Marine Corps Order (MCO) Volume (right header) will not change unless/until a full revision of the MCO has been conducted.

All Volume changes denoted in blue font will reset to black font upon a full revision of this Volume.

CHAPTER VERSION	PAGE PARAGRAPH	SUMMARY OF SUBSTANTIVE CHANGES	DATE OF CHANGE

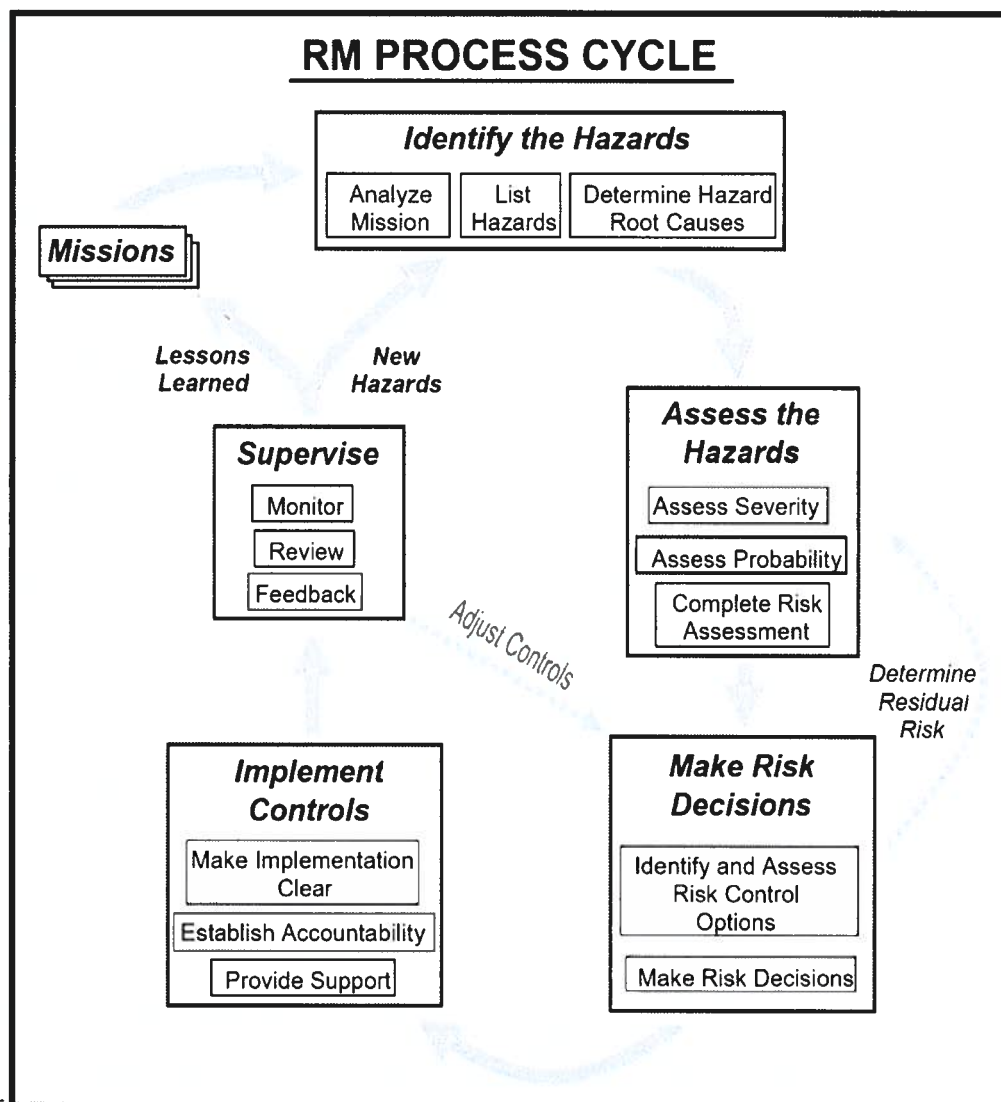
CHAPTER 3

RISK MANAGEMENT PROCESS

0301 OVERVIEW

This chapter will discuss in detail the five-step process of RM. The guidelines and resources that support these steps are outlined and explained, followed by a detailed explanation of each step of the RM process and the tools used to assist in those steps (i.e., tables defining Probability and Severity categories and the Joint Risk Assessment Matrix).

Figure 3-1: The RM Process Cycle



0302 PROCESS APPLICATION GUIDELINES

The following guidelines are provided to gain the maximum benefit and desired effects of the RM process.

A. Apply the process in sequence. Each element is a building block for the next step and should be applied as a sequential step that is also an integral part of mission planning, rather than each step being applied as a separate standalone procedure.

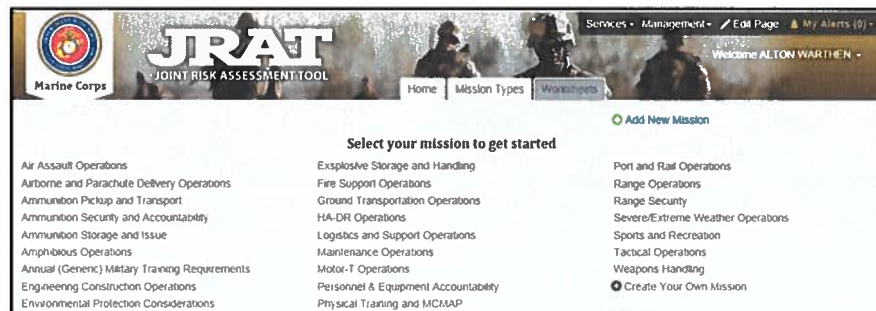
B. Maintain balance in the process. Every step and element of the process is important and should be afforded due diligence. The objective is to assess the time and resources available for RM and to allocate them in a manner most likely to produce the best result.

C. Apply the process as a cycle. The RM process is not a one-way cycle (refer to Figure 3-1). The process contains elements that require review and feedback, which provides checks and balances, and also the flexibility to make adjustments as the situation changes.

D. Involve personnel. The RM process is effective only if the personnel exposed to the risks and those who possess subject matter expertise in the task or mission are fully involved. These stakeholders have a vested interest in the outcome and will ensure the process is sound. Stakeholders help identify hazards and shape risk decisions. Leadership includes higher command levels in these risk decisions when necessary based on briefed risk decision levels from higher levels of command, and to ensure proper resourcing, visibility and oversight for implemented controls.

E. Document the process. Documenting the results of the RM assessment helps to organize ideas, identify courses of action, and brief and debrief the event. Documentation provides a valid reference to evaluate progress during the execution phase and a record for future use, which allows an organization to capitalize on lessons learned to improve performance and minimize repeat shortcomings.

F. Use the Joint Risk Assessment Tool (JRAT). The JRAT is a Web-based software application that assists the user with completing a deliberate joint risk assessment matrix. The software guides the user through each of the steps in an intuitive fashion with help screens and process information. The JRAT allows the chain-of-command to supervise and conduct quality control of the risk assessment process. **The site will also provide up-to-date and relevant safety information and tutorials, and will serve as the primary transition tool for the Marine Corps to the Joint Risk Assessment Matrix (Figure 3-4).** Upon completion of an assessment, reports can be printed and the assessment can be shared electronically. The USMC JRAT site is available via CAC access at: <https://jrat.safety.army.mil/login.aspx>.



G. Other Resources. The following resources focus on tactics, techniques, and procedures of immediate importance to the operating forces. There is also information that assists with identifying gaps and best practices, and recommend solutions across the doctrine, organization, training, materiel, leadership, personnel and facilities (DOTMLPF) spectrum.

1. Marine Corps Center for Lessons Learned (MCCL):

<https://www.mcwl.marines.mil/MCCLL>

2. Naval Safety Center Lessons Learned* (includes Marine Corps Lessons Learned): <https://intelshare.intelink.gov/sites/navsafe>

*Note:

1. New Users: Request access to the website.
2. Click the "Lessons Learned" icon on the main page (right side; looks like a chalkboard).
3. Under "Lessons Learned Communities", click the relevant community folder.
4. On each community page, click the "Lessons Learned Products" folder (Note: The "Sanitized Reports" folder is empty. All contents have been consolidated into the single LL folder. In pending website improvements, both of these sub-folders will be eliminated and all community LL/SSIR products will be visible upon completing step 3).
5. Select the LL/SSIR of interest.

0303 FIVE STEPS OF THE RISK MANAGEMENT PROCESS

030301. STEP 1: IDENTIFY HAZARDS

A hazard is defined as any condition with the potential to negatively impact the task or mission. Hazards can also cause property damage, injury to personnel, or death, which highlights the

importance of hazard identification as the foundation of the RM process. Personnel need to ensure a larger portion of available time is allotted to this step due to the simple fact that, if a hazard is not identified, it cannot be assessed or controlled. There are three sub-actions to be completed in this step.

A. Conduct an Operational Analysis. An operational analysis is a chronological, sequential list of the major events and elements in a task or mission. This complete picture of what is expected to happen assures that all elements of a mission or task are evaluated for all potential hazards. It begins with an outline listing the major steps in the operation. Next, it reviews plans, orders, and supporting documentation pertaining to the mission or tasking and the requirements needed for mission success. Last, it breaks down the task or mission into manageable phases in chronological order providing a clear picture of expectations and potential sources of hazards and threats.

B. Conduct a Preliminary Hazard Analysis (PHA). Building on the operational analysis, the PHA creates an initial list of hazards that may exist in a task or mission. With the phases broken down into manageable events in sequential order, each event is reviewed for associated hazards and causes. During the PHA, ensure a list is generated identifying these hazards for each event. Brainstorming and asking “what if” questions regarding what could go wrong throughout the task or mission helps uncover additional hazards. This technique guides a group in an interactive exchange of ideas deferring judgment until the end of the session. It is a good way to quickly generate many diverse ideas. This technique is also particularly effective when participants feel free to offer their ideas without fear of criticism.

C. Determine the Root Causes of Hazards. For each identified hazard, make a list of the associated causes with emphasis on clearly identifying the root cause. Hazards often have multiple causes. The root cause is the fundamental variable that potentially leads to mission degradation or failure. With causes identified, risk controls can be applied to mitigate and reduce risk. When possible, apply controls at root causes to have a greater effect in mitigating risks.

030302. STEP 2: ASSESS HAZARDS

For each hazard identified, determine the associated degree of risk in terms of probability and severity. The result of the risk assessment is a prioritized list of hazards ensuring controls are first identified for the most serious threats to task completion or mission success.

A. Determine Severity. Assess the potential consequence intensity that can occur as a result of exposure to a hazard; the degree of injury, illness, property damage, loss of asset (time, money, personnel), or task or mission impairing factors. Risk analysis prepares for the worst credible outcome. Consideration must be given to the number of personnel and resources potentially exposed to a hazard when determining potential severity. Hazard severity categories are assigned as Roman numerals according to the criteria in Figure 3-2.

Figure 3-2: Severity Categories

Category		Description
Catastrophic	I	• Loss of the ability to accomplish the mission • Death or permanent total disability • Loss of a mission-critical system or equipment • Major facility damage • Severe environmental damage • Mission-critical security failure • Unacceptable collateral damage • Objectives unachievable
Critical	II	• Significantly degraded mission capability or unit readiness • Permanent partial disability or severe injury or illness • Significant damage to property, systems, or the environment • Shortfalls to critical mission requirements • Significant collateral damage • Able to only partially achieve objectives
Moderate	III	• Degraded mission capability or unit readiness • Minor damage to equipment, systems, property, or the environment • Minor injury or illness • Most requirements are met
Negligible	IV	• Little or no adverse impact on mission capability or unit readiness • Minimal threat to personnel safety or health • Little or no property, systems, or environmental damage; fully functional and serviceable • Little or no impact to mission success • Objectives achievable

B. Determine Probability. This is a measure of the likelihood that a potential consequence will occur. An assessment of the probability that a hazard will result in a mishap or loss is defined by considerations of location, exposure (cycles or hours of operation), affected populations, experience, or previously established statistical information. Probability categories are assigned a letter according to the criteria in Figure 3-3.

Figure 3-3: Probability Categories

Category		Description
Frequent	A	• Frequently occurs. • Continuously experienced by an individual item or person. • Continuously experienced over a service life of an inventory of items or group.
Likely	B	• Likely to occur, immediately or within a short period of time. • Expected to occur frequently to an individual item or person. • Expected to occur continuously over a service life of an inventory of items or group.
Occasional	C	• Occasionally will occur in time. • Expected to occur several times to an individual item or person. • Expected to occur occasionally over a service life of an inventory of items or group.
Seldom	D	• Seldom may occur in time. • Can reasonably be expected to occur at some time to an individual item or person. • Can reasonably be expected to occur at some time over a service life for an inventory of items or group.
Unlikely	E	• Unlikely it will occur in time. • Unlikely to occur, but possible in the service life for an inventory of items or group.

C. Assign the Risk Assessment Level. The Risk Assessment Level is an expression of risk that combines the elements of hazard severity and probability of mishap occurrence. The Risk Assessment Level is a level of risk for each hazard expressed in the Joint Risk Assessment Matrix in Figure 3-4. Although not required, the matrix is helpful in identifying the Risk Assessment Level and in determining hazard abatement priorities. Additionally, the combination of two or more hazards may increase the overall level of risk. In some cases, the worst credible consequence of a hazard may not correspond to the highest Risk Assessment Level for that hazard. For example, one hazard may have two potential consequences. The severity of the worst consequence-Catastrophic (I) may be seldom (D)), resulting in a Risk Assessment Level of **HIGH**. The severity of the lesser consequence-Critical (II) may be Likely (B), resulting in the Risk Assessment Level of **HIGH**. Therefore it is important to consider less severe consequences of a hazard if they are more likely than the worst credible consequence, since this combination may actually present an equal or greater overall risk.

Figure 3-4: Joint Risk Assessment Matrix

Risk Assessment Matrix			PROBABILITY					
			Frequency of Occurrence Over Time					
			A Frequent (Continuously experienced)	B Likely (Will occur frequently)	C Occasional (Will occur several times)	D Seldom (Unlikely; can be expected to occur)	E Unlikely (Improbable; but possible to occur)	
SEVERITY	Effect of Hazard	<u>Catastrophic</u> (Death, Loss of Asset, Mission Capability or Unit Readiness)	I	EH	EH	H	H	M
		<u>Critical</u> (Severe Injury or Damage, Significantly Degraded Mission Capability or Unit Readiness)	II	EH	H	H	M	L
		<u>Moderate</u> (Minor Injury or Damage, Degraded Mission Capability or Unit Readiness)	III	H	M	M	L	L
		<u>Negligible</u> (Minimal Injury or Damage, Little or No Impact to Mission Readiness or Unit Readiness)	IV	M	L	L	L	L
			Risk Assessment Levels					
			EH=Extremely High H=High M=Medium L=Low					

D. Risk Assessment Pitfalls. The following pitfalls should be avoided during the assessment.

1. Over-optimism – not being totally honest or not looking for root causes.
2. Misrepresentation – individual perspectives may distort the data.
3. Alarmism – worst case scenarios are used regardless of their possibility.
4. Indiscrimination – all data is given equal weight.
5. Prejudice – subjective or hidden agendas are used instead of facts.
6. Inaccuracy – bad or misunderstood data nullify accurate risk assessment.
7. Enumeration – difficulty in assigning a numerical value to human behavior.

030303. STEP 3: MAKE RISK DECISIONS

Making risk decisions involves identifying the safety controls available to mitigate known hazards, and also assessing the potential effectiveness of the controls to determine the most favorable course of action.

A. Identify and Assess Risk Control Options. Starting with the most serious hazard, develop one or more control options that will either eliminate the hazard or reduce the risk of its occurrence to an acceptable level consistent with task or mission accomplishment.

1. Identify control options which can either eliminate the hazard altogether (e.g., physically remove it) or substitute it (i.e., replace it with a less hazardous alternative). These options include the following:

a. Reject the Risk. If overall risk exceeds the benefit, then do not take the risk. This is a valid option when you do not have the authority to apply proper or necessary controls.

b. Avoid the Risk. It may be possible to avoid specific risks altogether by conducting the task or mission in a different way. Be aware that conducting a mission by an alternate means may present new hazards that require consideration.

c. Delay an Action. If there is not a hard timeline or other benefit to quickly accomplishing a task or mission, it may be prudent to reduce the risk by delaying the action until favorable conditions present themselves.

d. Transfer the Risk. Risk may be reduced by transferring all or some portion of a particular task or mission. Transferring risk to another individual, unit, or platform that is better positioned to face the risk decreases the probability or severity of the risk to the total force.

e. Compensate for the Risk. A known risk can be compensated for by the inclusion of additional controls to ensure task or mission success despite the presence of that risk. Controls can take many forms but they fall into three basic categories:

1) Engineering Controls (isolate people from the hazard). Engineering controls protect workers from hazardous conditions by placing a barrier between the worker and the hazard, or by removing a hazardous substance, through air ventilation for example. Engineering controls involve a physical change to the workplace itself, rather than relying on workers' behavior or requiring workers to wear protective clothing. Examples include local exhaust ventilation to capture and remove airborne emissions, or machine guards to shield the worker.

2) Administrative Controls (change the way people work). These are controls that reduce risk through specific administrative actions such as providing suitable warnings, markings, placards, signs, and notices; establishing written policies, programs, instructions, and standard operating procedures; training personnel to recognize hazards and take

MARINE CORPS SAFETY MANAGEMENT SYSTEM

Volume 2 Chapter 3

MCO 5100.29C

15 OCT 2020

appropriate precautionary measures; and limiting the exposure to a hazard. Some examples are signs on a flight line requiring hearing protection, weapons range placards that identify when the range is in use, or a shoot house sign that lists authorized and unauthorized munitions.

3) Personal Protective Equipment (Protect the worker with personal protective equipment). PPE is equipment worn to minimize exposure to hazards that cause serious workplace injuries and illnesses. These injuries and illnesses may result from contact with chemical, radiological, physical, electrical, mechanical, or other workplace hazards. Personal protective equipment may include items such as gloves, safety glasses and shoes, earplugs or muffs, hard hats, respirators, or coveralls, vests, and full body suits.

2. Assess Control Options. For each hazard, develop one or more control options that either avoids the hazard or reduces its risk to an acceptable level. Examples of criteria for effective control options are listed in Figure 3-5.

Figure 3-5: Criteria for Effective Controls

Control Criteria	Remarks
Suitability	Control removes the threat or mitigates (reduces) the risk to an acceptable level.
Feasibility	Has the capability to implement the control.
Acceptability	Benefit or value gained by implementing the control justifies the cost in resources and time.
Explicitness	Clearly specifies who, what, where, when, why, and how each control is to be used.
Support	Adequate personnel, equipment, supplies, and facilities necessary to implement a suitable control are available.
Standards	Guidance and procedures for implementing a control are clear, practical, and specific.
Training	Knowledge and skills are adequate to implement a control.
Leadership	Leaders are ready, willing, and able to enforce standards required to implement a control.
Individual	Individual personnel are sufficiently self-disciplined to implement a control.

B. Make Risk Decisions. Consider selected controls; decide if the residual risk that remains after the control is in place is acceptable and the benefits outweigh the costs. This decision must be made at the right level and by the appropriate individual who can balance the risk against the benefits of completing the task or mission. If it is determined that the risk level is too high, then additional controls must be developed, the plan must be modified, or the course of action must be rejected. Additionally, if risks outweigh the benefit, or if assistance is required to implement controls, communicate this up the chain of command.

030304. STEP 4: IMPLEMENT CONTROLS

Once the risk control decisions are made, the next step is implementation. It is critical at this step to ensure that any controls are implemented with clear, simple execution orders understood at all levels. The plan is clearly communicated to all involved, accountability established, and necessary support provided.

030305. STEP 5: SUPERVISE AND EVALUATE

Supervision requires conducting follow-up evaluations of the controls to ensure they remain in place and have the desired effect. Engaged supervision includes three basic actions: (1) monitor risk controls' effectiveness; (2) determine if further assessment of the task or mission is needed due to unanticipated change (this might change the overall risk of the mission and require approval from a higher level); and (3) evaluate using a feedback system to capture lessons learned, identify any needed adjustments, and identify new hazards that may arise.

VOLUME 2: CHAPTER 4

RISK MANAGEMENT TRAINING AND EVALUATION

SUMMARY OF SUBSTANTIVE CHANGES

Hyperlinks are denoted by *bold, italic, blue and underlined font*.

The original publication date of this Marine Corps Order (MCO) Volume (right header) will not change unless/until a full revision of the MCO has been conducted.

All Volume changes denoted in *blue font* will reset to black font upon a full revision of this Volume.

CHAPTER VERSION	PAGE PARAGRAPH	SUMMARY OF SUBSTANTIVE CHANGES	DATE OF CHANGE

CHAPTER 4

RISK MANAGEMENT TRAINING AND EVALUATION

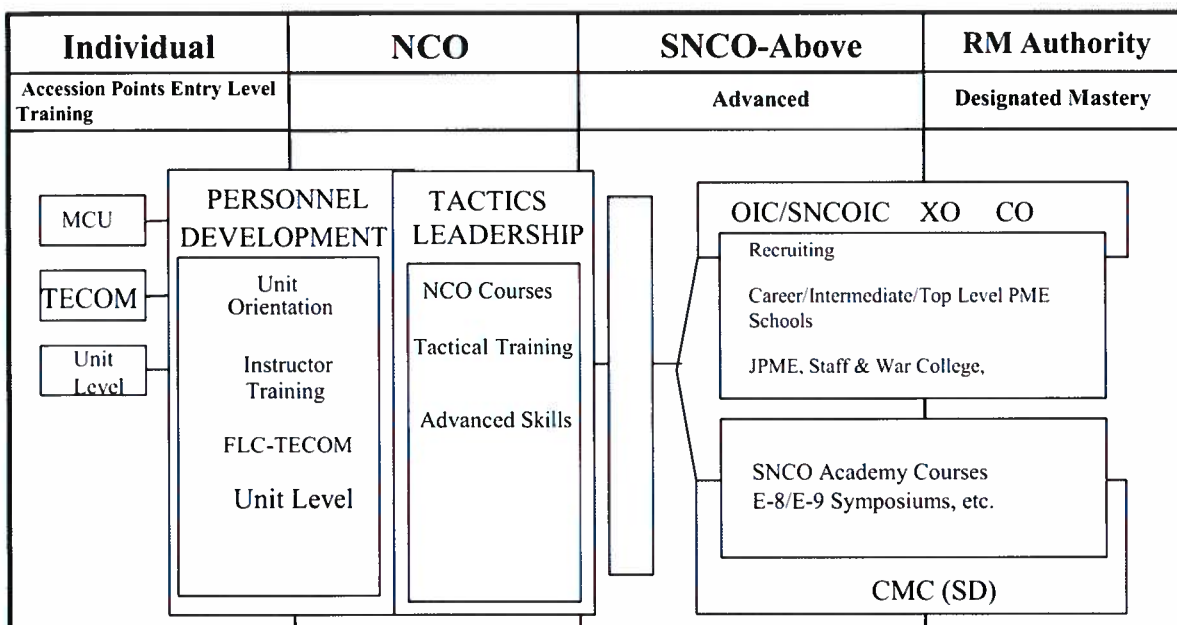
0401 OVERVIEW

An individual's Risk Management knowledge must be integrated into the training curriculum provided over the course of their entire career. RM is most effective when included within the occupational learning structure and reinforced through the professional military education process. Learning RM independent of necessary professional skills is an ineffective educational strategy. A career-long RM training continuum must be infused, targeted, and tailored to the appropriate leadership or training program within the current organizational infrastructure. For both formal and unit training programs, adding RM concepts will require thoughtful analysis of all training objectives to make it a viable part of learning. It is not simply a matter of adding an extra chapter, slide, or presentation to meet an external requirement where the learner must make an independent judgment to connect the RM to the training. It must be reinforced through leader led engagement sessions at least every two years, but ideally this is taught and reinforced continuously.

0402 CONTINUUM

Figure 4-1 is a **simplified** illustration depicting various milestones an individual may pass during a career. The top line breaks a career into four general categories, which are used to determine the focus of RM training. **The separation between these is not rigid as overlaps are a natural part of any Marine Corps career progression.**

Figure 4-1: RM Training Continuum



040201. INDIVIDUAL

A. Most individuals will enter military service without formal RM skills, but will likely have made personal risk decisions in a real time situation. With the transition to a military occupation, such decisions will likely have an impact on a team, mission, or task, not just on the individual. Therefore, every individual must be trained to manage risk using the RM principles and process.

B. The accession point of military service is the first structured encounter with formal military education and training for most individuals and offers a one-time opportunity to introduce and integrate RM concepts with initial military skills training. The alignment of basic skills and RM concepts will instill a confidence in the individual that RM will help them manage the demands of training and lay the groundwork to handle their missions and assignments on- and off-duty in the future. This is the time to establish the individual RM mindset.

C. The duties of Marine Corps personnel, whether officer or enlisted, are focused on execution of tasks; they operate primarily at the real time level. Therefore, it is logical that their RM introduction focus on TCRM.

D. The civilian workforce will follow prescribed Marine Corps RM training as directed by this Order.

040202. SUPERVISOR (NCO'S AND ABOVE)

For the purposes of this discussion, the supervisor is categorized as anyone who oversees and is responsible for the actions of others. Supervisors model behaviors and mentor subordinates every day. Those behaviors should include RM techniques. Supervisors are involved in planning for and executing tasks as well as managing available resources (equipment, personnel, etc.) to complete the mission or task. Therefore, the focus of their RM training should be tailored toward these skills. Thus, their training must not only build on earlier TCRM skills but provide them the skills and tools necessary to conduct RM at the deliberate level. Supervisors must be able to make informed personal and team risk decisions and recognize when to elevate risks that they cannot control to the right level.

040203. RISK MANAGEMENT AUTHORITY AND INSTRUCTORS

A. Designation of Risk Management Authority is determined by the Unit Commander. Examples of designees include the Executive Officer (XO) or civilian equivalent or based on RACs as follows:

Risk decision authority in a command has the following echelons:

- RAC 1 – Base Commanding Officer
- RAC 2 – Base Executive Officer
- RAC 3 – Division Directors
- RAC 4 – Company Grade Officers, Branch Heads
- RAC 5 – SNCO, First-line Supervisor

B. They are also responsible to provide the leadership, tools, resources, and controls for their personnel to successfully complete assigned missions and tasks.

Designation of a trained Risk Management Instructor is determined by the Unit Commander. Examples of designees include the Safety Officer, XO, or civilian equivalent. Commanders shall designate in writing at least one command RMI. Consideration should be given to rank, experience, and credibility when choosing an RMI to ensure a robust and dynamic RM program. It is recommended commanders also designate an Assistant RMI. The RMI and Assistant RMI should hold significant leadership or supervisory positions within the command. RMI qualification shall be completed prior to, or within 30 days of, designation and can be earned by completing all of the modules of the USMC RM Distance Learning Course Curriculum or graduating from one of the following: the U.S. Army Combat Readiness Center Career Program (CP-12) course, the Ground Safety for Marines course, the Aviation Safety Officer course, or the Aviation Safety Command course."

040204. TRAINING REQUIREMENTS

A. The Risk Management Authority will ensure a command-specific RM overview for all military and civilian personnel during the check-in process. The level of training shall be commensurate with rank, experience, and position.

B. RM training is a biennial requirement. The responsibility for conducting and ensuring the training is completed is under the direction of the unit commander. Biennial training may be accomplished by the following:

1. Completion of the appropriate module(s) of the USMC RM Distance Learning Course Curriculum. The website <https://www.marinenet.usmc.mil> provides a baseline understanding of RM fundamentals and attitudinal objectives intended to operationalize RM across the USMC Total Force. There are four separate modules. The first is aimed at USMC ranks E1-E3; the second targets USMC ranks E4-E6, WO1-WO2, and O1-O3; the third is aimed at USMC ranks E7-E9, WO3-WO5, and O4-O6, and the final module is aimed at USMC civilian and contracted employees.

2. Classroom instruction or practical application exercises (i.e. small group, scenario-based, etc.) led by a designated RM Instructor.

C. RM training shall be appropriately documented with an "AK" code via the Marine Corps Training Management System (MCTMS).

D. The Inspector General of the Marine Corps shall inspect the effectiveness of RM implementation and the completion of initial and biennial RM training, as defined by this Order and reference, during inspections.

040205. TRAINING FOCUS

A. Training should provide Marines with an understanding of the wide spectrum of RM considerations and how safety-oriented decisions are not so different from tactical

decisions. Marines innately manage risk in everything we do and must recognize that safety concerns are not always the same as “risk averse decision making,” but rather an understanding of a situation due to a particular vantage point.

B. The RM training shall be tailored, through the Unit Commander’s intent, to a more strategic application where preservation of resources, personnel, and mission or task accomplishment is the focus.

C. Training must be relevant, progressive, and sequential. Figure 4-1 illustrates graphically the shift which should occur in the focus of RM training as the individual progresses through a career and responsibilities increase.

D. Training needs to focus equally on off-duty as well as on-duty, as an off-duty loss also decreases readiness and therefore mission or task accomplishment.

E. It is important to target RM training to the audience and the environment in which they operate. The Instructors should create their own scenarios, specific to the unit (e.g., mission, size, average age, geo-location, trends, etc.) in order to make the discussion relevant. Participants are more likely to engage if the topic and learning outcome are directly related to their work or personal life.

F. The discussion should foster group participation through leadership and encouragement, as well as increase awareness of how RM principles and practices apply to both on- and off-duty activities, in garrison or deployed.

0403 HIGH-RISK TRAINING (HRT)

040301. BACKGROUND

All training involves some risk, which is why we apply a deliberate RM process. Many normal training evolutions in the Marine Corps would be considered “high risk” by outside observers in that we are dropping bombs, breaching obstacles with explosives, firing machine guns while assaulting objectives at night, and driving tactical vehicles off road. However, not all the training we do is “high risk”. For the Marine Corps, and the rest of the Joint Force, high risk training is necessary to be operationally ready and prepared to execute certain Mission Essential Tasks. High-Risk Training has a very specific definition, and associated additional risk mitigation requirements. These additional risk mitigation requirements exist to provide an elevated level of leader visibility and engagement. The use of checklists ensures all aspects of the training environment are carefully considered during planning. Additionally, high risk training checklists assist in identifying and considering any changes that have occurred since planning prior to execution. Mishaps associated with high risk training events usually are caused by risk decisions being made at the wrong level, or by a failure to update the plan prior to execution based on changing conditions.

040302. DEFINITION

High-Risk Training is defined as training which exposes personnel and trainers to the risk of death, serious injury, or permanent disability despite the presence of proper safety controls.

High-Risk Training is further defined as any training event that maintains a residual Risk Assessment Level of IA, IB, IIA or IIB even after safety controls have been implemented. See the boxes outlined in **RED** in Figure 4-2. Specifically, hazards have been identified, an initial Risk Assessment Level is assessed, a risk mitigation plan is applied, and the reduced or residual Risk Assessment Level remains as IA, IB, IIA or IIB.

Figure 4-2: Risk Assessment Matrix

Risk Assessment Matrix		PROBABILITY				
		Frequency of Occurrence Over Time				
		A Frequent (Continuously experienced)	B Likely (Will occur frequently)	C Occasional (Will occur occasionally)	D Unlikely (Will occur infrequently)	E Rarely (Will occur rarely)
SEVERITY Effect of Hazard	Catastrophic (Death, Loss of Asset, Mission Capability or Unit Readiness)	I	EH	EH	H	M
	Critical (Severe Injury or Damage, Significantly Degraded Mission Capability or Unit Readiness)	II	EH	H	M	L
	Major (Significant Injury or Damage, Degraded Mission Capability or Unit Readiness)	III	H	M	M	L
	Minor (Minor Injury or Damage, Degraded Mission Capability or Unit Readiness)	IV	M	L	L	L
	Trivial (Minor Injury or Damage, Degraded Mission Capability or Unit Readiness)	V	L	L	L	L
		Risk Assessment Levels				
		EH=Extremely High H=High M=Medium L=Low				

040303. HIGH-RISK TRAINING EXAMPLES

The following are examples of High-Risk Training:

- Survival, Evasion, Resistance, Escape (SERE) Training
- Parachuting (Static Line & Freefall) Training
- Combatant Diver Training (Open & Closed Circuit)
- High Altitude and/or Severe Weather Mountaineering Training
- MRZR/ATV/Dirt Bike Training
- Direct Action Live Fire Close Quarters Battle in Urban Terrain
- Helicopter Rope Suspension Techniques (HRST) Training
- Visit, Board, Search and Seizure (VBSS) Training
- Special Operations and Reconnaissance Amphibious Infiltration and Exfiltration Training
- Breaching and Explosive Entry Training
- Underwater Egress Training

040304. SUPERVISION, AUTHORITY, AND GUIDANCE

A. All High-Risk Training events should be approved in writing by the first O-5 Commander in the training unit's chain of command. For multiple unit training, each unit's commanders should approve.

B. High Risk Training events should use a risk assessment worksheet. For regularly repeated training events the same worksheet can be used once it is updated with current information, and all risk assessments and assumptions are carefully reviewed and verified. The requirement for High-Risk Training to be approved in writing may take the form of a signature on the risk assessment worksheet. There is no required form for the risk assessment worksheet, but it should include the following:

1. An Emergency Action Plan (EAP) which is an internal plan to be implemented immediately upon advent of a mishap to aid involved persons and to control and safeguard the scene. This plan must include at a minimum: primary and alternate communications; telephone numbers; radio channels; call signs; locations of emergency response personnel; locations of emergency equipment; equipment shutdown procedures; muster site and methods to maintain control of the scene; non-affected personnel; and all immediate emergency procedures. The EAP should be a simple checklist or sequential list of responses of expected and immediate actions by personnel in control of the event to aid and extract mishap victims from the scene. Individual EAPs shall be validated quarterly by a walk-through from the unit HRTSO
NOTE: a Pre-Mishap plan is what is to be used on the scene once the injured personnel are removed from the scene. Refer to OPNAVINST 5102.1D.

2. Procedures shall be outlined WRT personnel/student Cease Training (CT)/Training Time Out (TTO) requirements, and training will not reconvene until the identified issue is resolved

3. A primary and secondary communications plan for stopping training if anyone observes an unsafe condition.

4. A pre-execution final brief checklist to confirm any changes are accounted for.

APPENDIX: RISK MANAGEMENT PLANNING TOOLS AND PROCESSES

APPENDIX A

Troop Leading Steps (BAMCIS)

Begin Planning (BAMCIS)

The receipt of a mission triggers the BAMCIS cycle. To make effective use of available time, the leader issues a Warning Order, an abbreviated set of instructions to inform subordinates of an impending action; this allows their subordinates to execute the Warning Order while the leader conducts a detailed analysis, which we call the tactical thought process. Here, unit leaders will develop questions and make assumptions about the enemy to continue planning. The level of risk the leader chooses to assume is directly related to the depth of analysis they perform during the tactical thought process. At the end of this step, you have an initial plan that you expect to execute, pending the answers to your questions, and the validation of the assumptions you made about the enemy. To begin answering these questions you Arrange for Reconnaissance.

Arrange for Reconnaissance (BAMCIS)

Following the detailed analysis (tactical thought process) performed during planning, the leader then asks, "What information am I lacking in order to complete my plan and achieve mission success?" To get the information needed to mitigate the hazards and associated risks identified and assessed during the tactical thought process, the leader must arrange for a reconnaissance of the enemy and terrain. First, the commander must select the most effective means from the available reconnaissance options. This may be a physical reconnaissance during which the commander visits the ground on which they will fight. Second, the commander determines the priority of information needed to satisfy identified information gaps. The first priority must be the gaps regarding the enemy; focusing on confirming or denying any assumptions made about his location, orientation, or current tactical activity. The second priority is identifying elements of the friendly Scheme of Maneuver (SOM) such as the route, assault position, or defensive positions. Finally, the leader must determine which subordinate leaders will participate in the collection of this information. The personnel will vary according to the tactical situation, but the leader should take only as many subordinate leaders as necessary, while others remain behind to supervise mission preparation.

Make Reconnaissance (BAMCIS)

The commander now acts to answer his questions and validate any assumptions based on his priorities of reconnaissance and the time available. Every effort must be made to conduct a physical reconnaissance and get "eyes on the enemy". In addition to a physical recon, the commander should use all other available assets (imagery, air reconnaissance, etc.) to help fill information gaps. The reconnaissance is only successful if it answers the questions needed to successfully accomplish the mission.

Complete the Plan (BAMCIS)

The unit leader must now take the information gained during the reconnaissance and validate the initial plan. This is done by conducting repeating the tactical thought process, now armed with the answers to our questions. This analysis ensures necessary changes are made to our plan. Leaders make a critical error when they receive updated information that conflicts with their previous analysis or established plan, but fail to update their Mission, Enemy, Terrain, Troops, Time, and Civilians (METT-TC) assessment or revise their scheme of maneuver. At the conclusion of the second conduct of the tactical thought process, leaders write a Five Paragraph Order and use it to communicate the plan to subordinates.

Issue the Order (BAMCIS)

Leaders then verbally communicate their analysis and scheme of maneuver using proper order-issuing techniques. Clear communication of a well thought out plan is required to turn a leader's decisions into an executed plan that achieves mission success.

Supervise (BAMCIS)

Leader ensure compliance with the details of the plan until the mission is accomplished. This includes the timeline the commander set forth, realistic mission rehearsals, Pre-Combat Checks (PCCs) and Pre-Combat Inspections (PCIs) of personnel prior to execution, and the complete execution of the mission. Task delegation to subordinate unit leaders is almost always required. Leaders must check that the plan is being executed as intended.

APPENDIX B

Time Critical Resource Management Assess, Balance, Communicate, and Do/Debrief (ABCD) Model

Experience is culmination and sum of all learning events. Everyone has some experience to draw upon when responding to an event or stimulus. Leaders should marshal and coordinate the experience of all personnel involved in accomplishing a task or mission. This collective experience is valuable when using Time Critical Risk Management for quick real time hazard identification and risk assessments. We often do this personally both on duty and off-duty and we don't even realize it.

The ABCD (Assess, Balance, Communicate, and Do/Debrief) Model (Figure 1 and 2) is a process used to conduct Time Critical Risk Management. It is a simple process that can be used by individuals, teams, squads, or crews to learn new or complex behaviors and skills, or to incorporate Risk Management into planning.

DECISIONS

A. Using the ABCD Model daily helps establish a habit and trains the brain to continue thinking under less than optimal conditions, duress, or stress.

1. The model is designed to assist you when:

- a. Working in a dynamic environment.
- b. Monitoring a static or routine situation to capture errors.
- c. Making a decision with partial information.

2. In all three situations, it is necessary to develop habits that trigger the process to: Assess the situation; Balance your resources; Communicate risk and intentions; and Do and De-brief the event.

3. These situations require the continuous use of Assess, Balance, Communicate, Do and Debrief as necessary. An added benefit of the ABCD Model is the continuous improvement of skills and knowledge which occurs with self-assessment.

B. Time critical decision making requires practicing a unique set of skills. In a real-time event, personnel assess the situation, balance their resources, communicate risk and intentions to all concerned, and execute (Do) actions that complete the mission or task while mitigating risk by responding to the conditions observed. Follow-up by debriefing the results in order to gain lessons learned.

C. Time critical decision making relies on the decision maker's previous experience, training, and availability to recall resources from in-depth or deliberate RM.

D. Time critical decisions are based on pattern matching to past training and experience and the recall of resources in the ABCD Model format.

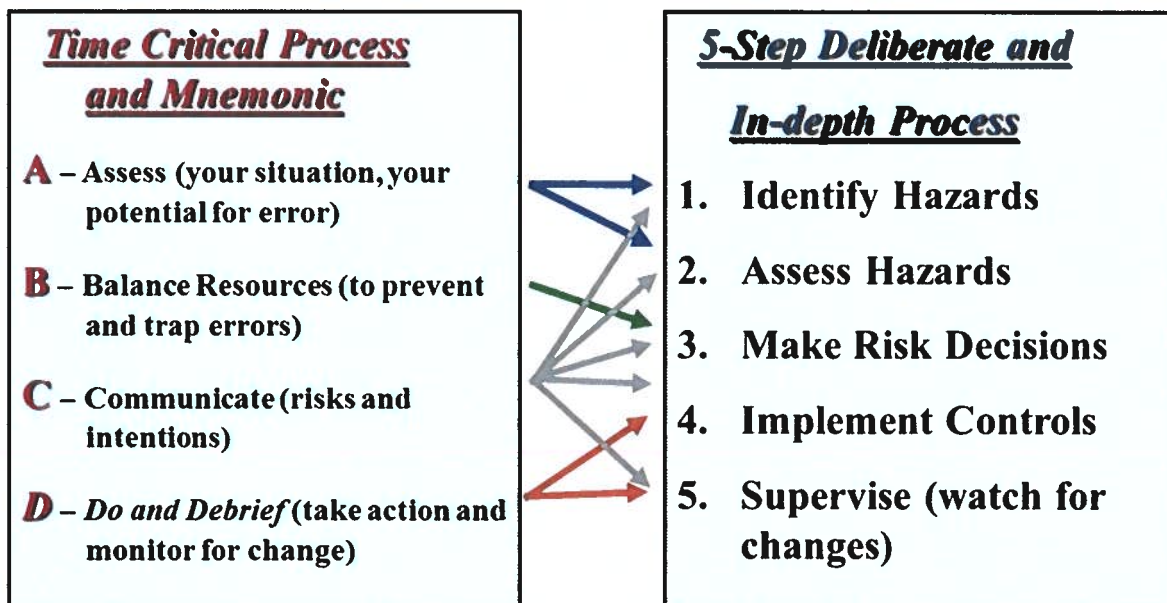
E. Standardizing the communication structure reduces conflicts and errors, and it improves the ability to manage risk and resources.

THE ABCD MODEL

The ABCD Model (Assess the situation, Balance your resources, Communicate risk and intentions, and Do and Debrief the event) provides common language and structure for a measured response when an individual, team, or crew is executing a routine task, or when they are under duress in a more complex situation. This simple mnemonic provides individuals with a means to evaluate risks and form mitigation strategies on-the-run and can easily be applied in both on and off-duty situations. These pressures in these situations can range from additive conditions, time compression, personnel factors, or task loading. Increased experience improves the consistency of the response. Using the ABCD Model improves the ability to match a previous task or mission to a new experience and allows for more uniform and consistent responses. Training to the ABCD Model will embed a set of patterns that will help personnel recognize and recall a set of actions to counter risk even when distracted.

The ABCD Model is not a replacement for the 5-step RM process or a different RM process. It is the practical application of the 5-step process in environments where time is limited and we are most susceptible to risk. Figure 1 identifies the relationship between the 5-step RM process and TCRM using the ABCD Model.

Figure 1. Time Critical Risk Management Link to the 5-Step Risk Management Process



ASSESS THE SITUATION

“A” in the mnemonic combines the first two steps of the 5-step RM process. In a real-time situation, it is essential for individuals to consider the event in which they are engaged and choose the appropriate resources or controls to meet the hazards they identify. In a real time situation, an assessment of the situation requires an accurate perception of what is happening in a relatively short time and projecting its effect. In other words, maintaining good situational awareness (SA) is key. In TCRM, where there is limited time to assess hazards, it is an individual’s ability to quickly and effectively comprehend the situation and apply appropriate, available resources that determines the difference between success and failure.

BALANCE RESOURCES

“B” in the mnemonic is tied to making risk decisions (RM step 3s) to mitigate risks. After assessing the situation, personnel must consider how to use the resources available to complete the task or mission. Thorough planning prior to an event will increase the availability of the resources needed to implement effective controls. A clear understanding of the task or mission, proper training, PPE use, and recognition of personal limitations are all essential aspects of balancing resources.

COMMUNICATE RISK AND INTENTIONS

Clear, concise, two-way communication is essential for effective mission execution. “C” reminds us to communicate clearly during the event, and it is tied to all 5 steps of the RM process. Maintaining good SA of additive conditions, task loading, and crew factors is critical to communication because an individual’s perception and communication skills deteriorate as they lose SA. As stress increases or events become more time constrained, communication tends to become limited or non-existent. Individuals who understand this relationship are better able to adjust and mitigate additional risk when they recognize a loss of SA. Although communicating intentions works best when multiple individuals are involved in the event, situations may occur where individuals must weigh decisions on their own. To insure positive and effective communications, it is critical that a continual internal assessment be conducted by asking relevant questions such as, “Who needs to know about the situation?,” “Can this be done differently?,” or “Who can provide help if needed?”

DO AND DEBRIEF

The “D” in ABCD is italicized to emphasize the two parts: Do and Debrief. This mnemonic is tied to steps four and five of the 5-step process. Do the task or mission. However, to be successful in the event, the individual must select and use the appropriate resources while adjusting actions as required to ensure mission success. It is vital that a feedback loop, the “Debrief” part of the “D”, be performed. It is beneficial for individuals complete the ABCD loop and identify what worked and what did not, and to disseminate lessons learned. Debriefs improve performance and provide the experience and the tools to help manage risks faced in future missions. Debriefs are essential to completing the ABCD loop. To ensure future activities are improved and risks are reduced, ask questions during debriefs such as, “Was our

MARINE CORPS SAFETY MANAGEMENT SYSTEM

Volume 2 Appendix B

MCO 5100.29C

15 OCT 2020

assessment accurate?”, “Were we lucky?”, “How well did we use our resources?”, “Was communication effective?”, and “What can we do to improve events in the future?” Detailed and thorough debriefs are the mark of a professional.

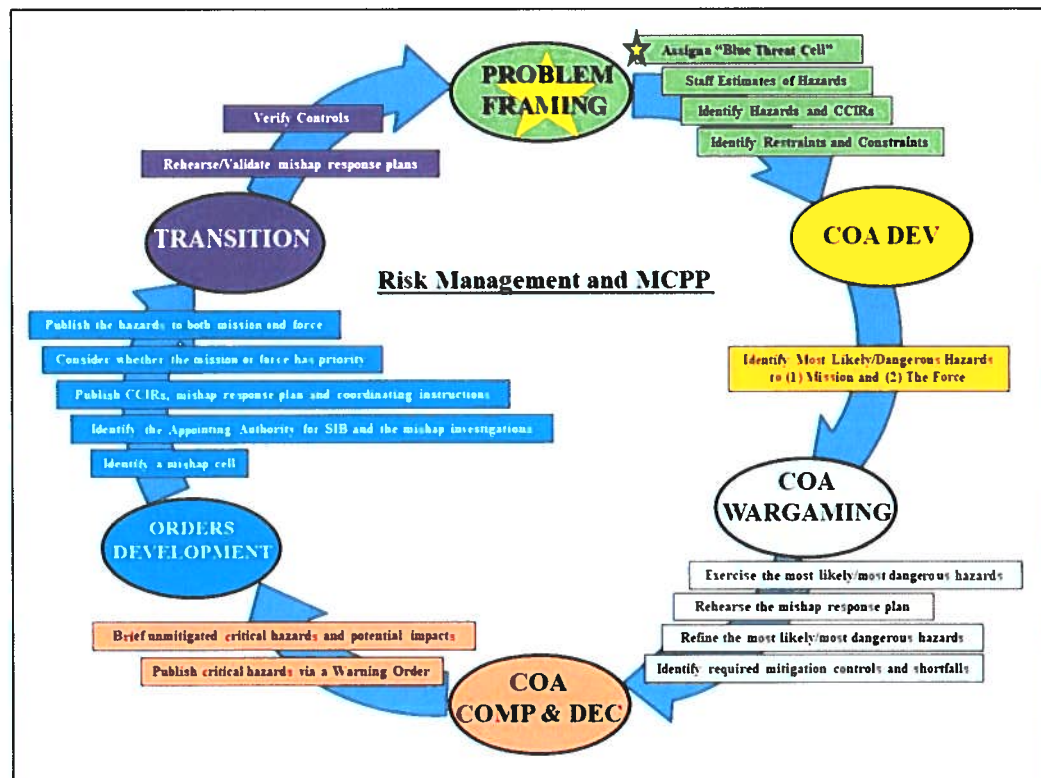
The practical use of the ABCD Model to assist individuals during TCRM and decision making will sustain a responsive capability to effectively meet personal challenges or mission contingencies now and in the future. Standard Operating Procedures should be the foundation of TCRM.

APPENDIX C

Marine Corps Planning Process (MCP)

MCP provides a means for Commanders and their staffs to understand a problem and develop an appropriate Course of Action (COA). The MCP consists of six primary steps and RM is a continuous and central component ongoing throughout the process (See Figure 1).

Figure 1: Marine Corps Planning Process and the Blue Threat



BLUE THREAT

The hazards a force is exposed to during mission execution can be both adversary and non-adversary based. This concept is commonly referred to as the "red" vs. "blue" threat. Losses caused by the "blue" threat the readiness and effectiveness of the force. Commanders and their Staff should incorporate non-adversary based hazards (blue threats) into planning to ensure there is sufficient information for risk decision-making and control implementation with the intent of preserving the force's readiness and effectiveness.

RM PLANNING

RM planning is done within the all six steps of MCPP but is particularly important to the planning process during the first three steps: Problem Framing, Course of Action (COA) Development, and COA Wargaming.

PROBLEM FRAMING

Problem framing identifies what the command must accomplish, when and where it must be done and, most importantly, why it is being done at all—the purpose of the operation. The purpose is articulated in the mission statement (task and purpose). Within Problem Framing, "Conduct Risk Management" is integrated into the Ongoing Activities-Risk Management. Marine Corps Doctrinal Publication (MCDP) 1 (Warfighting) states, "Risk is inherent in war and is involved in every mission. Risk may be related to gain; greater potential gain requires greater risk." RM enables the commander to make informed decisions about real or potential risks in the accomplishment of their mission. In Problem Framing, commanders and their staffs identify initial risks to the mission and to the force (personnel, material, etc.). Some specific tasks include:

- A. Within the Red Cell, assign a "Blue Threat Cell/Team" to analyze hazards and develop mitigation strategies.
- B. Produce staff estimates of hazards that pose a risk to mission or a risk to force.
- C. Identify hazards or events for Commander's Critical Information Requirements (CCIR) consideration.
- D. Identify assumptions with associated hazards/risks.
- E. Identify and assess hazards stemming from constraints and restraints.

COA DEVELOPMENT

COA Development produces options for accomplishing the mission in accordance with the commander's intent. This step produces options for the commander; refines the design; and promotes understanding of the environment, problem, and the approach to solving the problem. During COA Development, "Continue Risk Management Planning" is an on-going activity. As the MCPP continues, the staff uses the RM process to further identify risks, assess hazards, and provides control options to the commander for his risk decisions. Controls are paired with specific risks. Many identified risks to the mission or the force are addressed through MCPP by assigning controls (e.g. positioning of the reserve or the alert status of the Tactical Recovery of Aircraft and Personnel (TRAP) force during a particular part of the operation). Risks can be assessed using the Risk Assessment Matrix as well as other tools and methods detailed in this order. When briefing, Action Officers or Staff will list identified hazards and associated mitigations or controls. The COA Development Brief includes the Risk Management Plan in the list of topics under the "Conduct COA Brief." Some specific tasks include:

- A. Identify most likely/most dangerous hazard to the mission.
- B. Identify most likely/most dangerous hazard to the force.
- C. Identify Risk Controls.

THE COA WARGAME

The COA wargame examines and refines the COA options in light of adversary capabilities and potential actions/reactions, as well as the characteristics peculiar to the operating environment such as weather, terrain, local culture, and the presence of non-Department of Defense (DOD) entities or stakeholders. This detailed operational environment and possible adversary reaction examination should produce a greater understanding of the environment, the problem, and possible solutions. During COA Wargaming risk management plans are addressed and continually revised. Some specific tasks include:

- A. Exercise the most likely or most dangerous hazards to both force and mission during the wargame.
- B. Rehearse the mishap response plan.
- C. Develop a Decision Support Matrix for events considered High Risk (ex: RAC of Extremely High).
- D. Refine the most likely/most dangerous hazards to force and mission.
- E. Identify required mitigation controls and shortfalls.
- F. Assess Controls.

COA DECISION, COMPARISON AND TRANSITION

In steps four and five of the MCPP, RM plans are briefed during COA Decision and Comparison and then formally captured in writing the Operations Order (OPORD). The final step, Transition, occurs after mission accomplishment as the force reconstitutes and prepares for follow on tasking.

- A. COA Comparison and Decision.
 - 1. Brief unmitigated critical hazards and potential impacts.
 - 2. Publish critical hazards via a Warning Order for subordinate element analysis.
- B. Orders Development.
 - 1. Publish the hazards to both mission and force.

2. Consider whether the mission or force has priority.
3. Publish CCIRs, mishap response plans/tasks, and coordinating instructions.
4. Identify a mishap cell (ex: Mishap Investigation team, Safety Investigation Board (SIB), evidence preservation/collection).
5. Identify the Appointing Authority for SIB and the mishap investigation controlling command.

C. Transition

1. Verify Controls.
2. Rehearse/Validate mishap response plans.

SAFETY APPENDIX

An appendix placeholder for the RM Plan is found within Annex C (Operations), if the command includes a Risk Assessment Matrix in its published OPORD. Another consideration is including the mishap response plan as an appendix or tab to the RM Plan.

A. RM Roles and Responsibilities.

1. Commander's Intent. As a function of the Commander's Orientation in the MCPP, the process should review the command philosophy paying special attention to the unit's mission, culture, and command attitudes towards risk. The Commander's Intent as it pertains to RM should consider how mishaps impact the unit's readiness as well as the effectiveness of RM efforts. Finally, the commander should provide RM focus areas for planners to consider.

2. Planners. Ultimately, planners should seek to enable units to implement RM processes that continuously identify hazards, assess risks and implement controls in order to prevent mishaps.. An effectively applied RM process preserves operational readiness, combat capability, and overall unit effectiveness.

3. Execution. The Marines assigned the task of executing the plan should clearly understand the plan, know what needs to be communicated and to whom, understand who has the authority and responsibility to make decisions as the situation changes, be empowered to report changes as they are discovered or occur, and have the guidance needed to make appropriate decisions. Considerations during execution might be: Do I have to do this? If the answer is no, then there is probably something else to do instead. If a Marine must complete the activity in question than they might ask: Can I do this better, is there a different option? If there is not a better way and there is risk of danger, injury, or something worse than a consideration might be: Who do I need to tell? If an individual identifies a hazard, then someone else will likely benefit from knowing about it. This is where the chain of command should be informed. A decision maker needs to assess the risk and potentially change the plan to mitigate the hazard and associated risk. What effect can the individual identifying the hazard have on that decision?

When we consider RM and what we want from our Marines, we have to foster and encourage them to actively report. Building an effective RM culture isn't just reading a RM worksheet, talking about risk mitigation, and enforcing policy, it's communicating that everyone is expected and encouraged to participate.

4. Importance of Transition. It is important to discuss the plan, risks, and controls with all parties ensuring they understand the entire picture. Should things go wrong, all Marines need to understand the "why" behind the chosen control so that they can make informed risk decisions as needed and choose a new control or properly escalate the risk. Example considerations might be: "What authority do you have to make risk decisions?", "Do you know what specific decisions must be elevated up and to whom?", and "Is there unit guidance that gives Commander's Intent for situations not specifically covered?", "Do the Marines below you have the same understanding as it applies to their sphere of influence?"

The Marine Corps functions as a team. To ensure that you continue to build your unit and positively shape the climate away from individuality towards the team; all parties must understand the plan, their role, and be an active participant in the debrief/feed-back loop. Remember the four principles:

- (1) Accept risk when the benefit is greater than the cost.
- (2) Accept no unnecessary risk.
- (3) Anticipate and manage risk by planning.
- (4) Make risk decisions at the appropriate level.

5. Discussion. Articulating the need to consider both adversary (red) & non-adversary (blue) based hazards can be incorporated into the MCPP without making it unwieldy and unusable. With all of this in mind it becomes much clearer that Marines shouldn't look at risk management as the protection of fingers and toes, but as a critical and continuous process that when properly applied creates significant advantages and sets the condition for mission success.