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N09F
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OPNAV INSTRUCTION 3500.39D

From: Chief of Naval Operations

Subj: OPERATIONAL RISK MANAGEMENT

Ref: (a) DoD Instruction 6055.01 of 14 October 2014
       (b) NWP 5-01
       (c) OPNAVINST 5100.23G

Encl: (1) Operational Risk Management (ORM) Fundamentals
       (2) Operational Risk Management (ORM) Time Critical Risk Management (TCRM)
       (3) Operational Risk Management (ORM) Training Continuum
       (4) Operational Risk Management (ORM) Evolution and Program Assessments
       (5) Operational Risk Management (ORM) Glossary

1. Purpose. To establish policy, guidelines, procedures, and responsibilities per references (a) and (b); to standardize the operational risk management (ORM) process across the Navy; and to establish the ORM training continuum. This revision provides fidelity to the ORM training continuum, highlighting ORM unit and group assessments and reporting results. This instruction is a complete revision and should be reviewed in its entirety.

2. Cancellation. OPNAVINST 3500.39C.

3. Scope and Applicability. This instruction applies to all Navy activities, commands, personnel, and contractors (i.e., the latter only when under the direct supervision of Government personnel).

4. Discussion. Risk is inherent in all tasks, training, missions, operations, and in personal activities no matter how routine. A frequent contributing cause in task degradation or mission failure is human error, specifically the inability to consistently manage risk. ORM reduces or offsets risks by systematically identifying hazards and assessing and controlling the associated risks, allowing decisions to be made that weigh risks against mission or task benefits while assessing their potential impact on operations. As professionals, Navy personnel are responsible for managing risk in all tasks while leaders at all levels are responsible for ensuring proper procedures are in place and that appropriate resources are available for their personnel to perform assigned tasks. The Navy vision is to develop an environment in which every officer, enlisted, or civilian person is trained and motivated to personally manage risk in everything they do, as outlined in enclosure (1). This includes on- and off-duty evolutions in peacetime and during conflict, thereby enabling successful completion of any task and mission. Navy commands and activities accomplish this by executing a four pillar strategy.

a. <u>Policy and Leadership</u>. Implement the requirements of this instruction and ensure all personnel are aware of the expectations for its application and use. Leaders at all levels integrate and apply ORM. The actively involved leaders send a strong signal that they support ORM. Leaders also maintain a command climate that fosters effective feedback and are willing to raise issues through their chain of command for assistance and decision. The ORM fundamentals in enclosure (1) provide the foundation upon which to apply and integrate ORM.

b. <u>Training and Education</u>. Make ORM an integral part of orientation, indoctrination, training, and planning for all military and civilian personnel. The level of training should be commensurate with rank, experience, team, crew, or leadership position. The emphasis for junior personnel should be on time critical risk management (TCRM), as outlined in enclosure (2), since they are responsible for "doing" the task and less involved with the planning. Emphasis for more senior personnel should be on in-depth or deliberate risk management. It is important that the Navy institutes a sustainable training continuum that addresses individual and organizational application of the ORM process that starts at the point of accession and builds through all the occupational milestones in a career, as found in enclosure (3).

c. <u>Evaluation and Accountability</u>. It is important to establish methods to measure performance to ensure that all Navy activities, commands, and personnel are integrating and applying ORM. This will be done by leveraging existing evaluation infrastructure and using the tools described in enclosure (4).

d. <u>Tools and Resources</u>. Success in integrating ORM Navywide requires that the necessary resources, such as time, manpower, money, and equipment be made available and that the appropriate tools are developed. Leveraging existing tools and sharing of ideas and best practices is crucial.

e. <u>Four Pillar Strategy Support Documents</u>. In support of executing the four pillar strategy, enclosures to this instruction are provided: ORM fundamentals in enclosure (1); TCRM in enclosure (2); ORM and risk and hazardous situation decision-making training continuum in enclosure (3); evolution and program evaluations in enclosure (4); and glossary of acronyms and terms in enclosure (5).

5. <u>Policy</u>. All Navy activities, commands, personnel, and contractors (the latter only when under the direct supervision of government personnel) must apply the ORM principles and process in all activities in order to optimize mission success and maintain readiness.

6. <u>Responsibilities</u>

a. <u>Chief of Naval Operations Special Assistant for Safety Matters (OPNAV N09F) and Commander, Naval Safety Center (COMNAVSAFECEN)</u>

(1) Issue policy guidance and management of the Navy's ORM Program.

(2) Serve as the ORM model manager and subject matter expert (SME) for the Navy's ORM Program and risk or hazardous situation decision-making training.

(3) Assist assessment and evaluation commands and activities with the development of ORM evaluation solutions to standardize staff ORM evaluation training for fleet, shore, and support organizations.

(4) Maintain a Web page with the latest information on ORM policy, training and education, best practices, tools and resources, and relevant information to support the Navywide integration of ORM principles and processes.

(5) Coordinate with, and provide to course curriculum managers at the Naval Education and Training Command (NETC); Bureau of Medicine and Surgery (BUMED); United States Naval Academy (USNA); Naval War College (NAVWARCOL); Naval Leadership and Ethics Center (NAVLEADETHCTR); Naval Service Training Command (NSTC); Naval Surface Force Atlantic; Naval Surface Force U.S. Pacific Fleet; Submarine Force Atlantic; Submarine Force U.S. Pacific Fleet; Naval Air Force Atlantic; Naval Air Force Pacific; Navy Expeditionary Combat Command; Naval Information Forces; Naval Special Warfare Command; and other formal training commands, specific guidance and content regarding curriculum requirements supporting the execution of the ORM risk and hazardous event decision-making training consistent with Sailor positional and career development. Content should be aligned with the continuum of training illustrated in enclosure (3), figure 3-1. Training must concentrate on procedural accuracy, time critical decision-making, and post-decision debriefing for the acquisition of lessons learned.

(6) Provide education and training for designated ORM assistants through Naval Safety and Environmental Training Center.

(7) Explore new technologies and alternative training systems with direct application to managing organizational and individual risks Navywide.

(8) In an effort to leverage risk management as a resource, and as part of the safety assurance pillar, all echelon 2 commands must roll-up their subordinate commands' annual self-assessments as outlined in reference (c). COMNAVSAFECEN must then collate and synthesize for dissemination across the Navy enterprise to provide a holistic view of the effectiveness of risk management and provide clarity concerning gaps and seams that require intervention or guidance to resolve. This information must be briefed to senior Navy leadership as appropriate.

b. Echelon 2 Commanders (to include administrative, support, and shore commands)

(1) Provide uniform guidance for identifying areas where existing instructions, standard operating procedures (SOP), and command-specific applications or requirements must be augmented with ORM.

(2) Establish an ORM evaluation policy for subordinate commands using existing evaluation or inspection processes and periodicities.

(3) Ensure ORM and other risk management training is tailored to installations, pre-deployment unit and group training, operations, and exercises.

(4) Ensure assessment and evaluation commands and activities comment on ORM methods and practices. ORM must be integrated as part of every evolution that the unit executes; therefore, it must be an integral part of the evaluation mechanisms and metrics that validates a unit's readiness and effectiveness. OPNAV 3502/1 Evolution ORM Assessment Sheet is an example of an ORM evolution evaluation.

(5) Collect and consolidate lessons learned and best practices and seams or gaps identified by their subordinate commands' annual self-assessments. Provide top issues that impact risk to mission, risk to force, and mission readiness.

(6) Integrate the ORM process and its application into tactical level training such as personnel qualification standards, job qualification requirements, task group instruction, and job orders.

(7) Integrate ORM and risk and hazardous situation decision-making into staff processes.

Note: Be aware of policies and processes that inadvertently transfer risks to subordinate commands.

c. Systems Commands. Provide information, data, and technical support for the resolution of hazards under their cognizance, and incorporate a risk mitigation strategy for system and program development, acquisition, and sustainment in community policies, guidance, and instructions.

d. Commander, NETC; BUMED; USNA; NAVWARCOL; NAVLEADETHCTR; NSTC and All Other Commands Involved in the Formal Training of Personnel

(1) Implement ORM student-centered risk and hazardous situation decision-making training continuum, consistent with enclosure (3), figure 3-1, throughout the Navy enterprise within existing curricula and instructions in coordination with and as developed by the ORM model manager.

(2) Deliver ORM decision education and skill sets required for each level within the continuum. Deliver focused ORM instruction starting at all accession points through all the occupational milestones in a career, as approved by the ORM model manager, and resourced by the applicable resource sponsor.

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(3) Provide ORM training at both the knowledge level and application level within the ORM learning continuum. Content should be pertinent course of instruction and to the expected training outcomes.

(4) Educate and train or provide education and training tools for ORM organizational or command integration training.

(5) Ensure COMNAVSAFECEN is notified by respective learning center (e.g., NETC Fleet Integration, Learning, and Development Division (N7)) learning standards officers prior to all training requirements reviews and other review processes or curricula changes affecting the inclusion of ORM, risk, and hazardous situation decision-making.

(6) Recommend notification of the implementation of new and innovative training technologies and methodologies to the ORM model manager that demonstrate improvements in the effectiveness of ORM, risk, and hazardous situation decision-making training for application of ORM skill sets.

e. Naval Manpower Analysis Center

(1) Incorporate the ORM process into naval standards, curricula, and wherever specific applications warrant additional requirements.

(2) Integrate specific applications of the ORM process into Navy occupational standards for the Navy's individual training standards.

f. Echelon 3 and 4 Commanders

(1) Have a command policy for the application of ORM, or implement guidance from higher headquarters.

(2) Collect from subordinate commands actionable identified gaps, initiatives (i.e., both internal and external) to address identified gaps, and best practices that might benefit or advance other commands' ORM programs. As these are identified, provide to higher headquarters and communities of interest, when applicable.

g. Commanding Officers (CO), Masters, and Officers in Charge (OIC)

(1) Designate in writing the executive officer (XO), deputy OIC, or civilian equivalent, as the command ORM manager to oversee command ORM training, implementation, and measurement of its effectiveness within the unit.

(2) Develop and issue ORM directives, procedures, and guidelines for implementation throughout the organization that incorporates the requirements of this instruction.

(3) Apply ORM to all aspects of command operations and activities (on- and off -duty).

(4) Address the ORM process in mission, training, safety, and lessons learned reports. Reports should comment on hazards, risk assessments, and effectiveness of risk mitigation controls.

(5) Inform the chain of command of those hazards identified by the ORM process that cannot be controlled or mitigated at the command level.

(6) Ensure ORM risk decisions are being made at the appropriate level in the command.

(7) Collect actionable identified gaps, initiatives (i.e., both internal and external) to address identified gaps, and best practices that might benefit or advance other commands' ORM programs. As these are identified, provide to higher headquarters.

(8) Use experienced personnel to: assist others in conducting risk assessments; and train command personnel using resources such as ORM assessments, general military training (GMT), ORM training, videos, and lesson guides and materials provided by the ORM model manager, school houses, or other sources. Suggested venues for this training include training in work centers, at stand downs, indoctrination classes, and training syllabus events.

(9) Ensure the command uses tools and resources (e.g., root cause analysis, fall risk assessment, the Federal Aviation Administration's Flight Risk Assessment Tool, job hazard analysis) that include hazard identification, risk prioritization, and hazard controls for common tasks and evolutions or assessments specific to unique tasks or evolutions. Incorporate identified hazards, assessments, and controls into briefs, notices, and written plans.

(10) Include ORM in the orientation and training of all military and civilian command personnel, commensurate with rank, experience, and leadership position.

(11) Optimize the use of fitness reports and evaluations to influence, assess, and comment on their Sailor's support of and ability to implement and operationalize risk management into the tasks and missions within their respective scope of influence.

  h. Command ORM Manager

(1) Ensure the ORM process is applied to all aspects of command operations and activities.

(2) Select at least one officer and one senior enlisted person, or a civilian equivalent, for designation as ORM assistants. Additional personnel may be designated based on command

mission or unit size. They should hold significant leadership or supervisory positions in major departments (e.g., supply, operations, training, nuclear power, maintenance, air, engineering, or weapons or combat systems).

Note: Commands or detachments of less than 20 personnel may select either one officer or senior enlisted or civilian equivalent, as an ORM assistant, or utilize major command assets (e.g., ORM assistants to review command ORM program requirements and processes).

(a) Ensure the command ORM assistants are qualified per this instruction. ORM assistant qualification is earned by completing the ORM Application and Integration Course, Aviation Safety Officer Course, Aviation Safety Command Course, Surface Warfare Officer School, Afloat Safety Officer Course, or the Submarine Officer Advanced Course.

(b) As the command's SME, the ORM assistants will assist command personnel in conducting risk assessments and train command personnel using resources such as ORM assessments, GMT, ORM training, videos, and lesson guides and materials provided by the ORM model manager, school houses, or other sources. Suggested venues for this training include training in work centers, at stand downs, indoctrination classes, and training syllabus events.

(3) Ensure command policies require the use of tools and resources (e.g., root cause analysis, fall risk assessment, joint risk assessment tool, the Federal Aviation Administration's Flight Risk Assessment Tool, job hazard analysis) and other accepted processes that include hazard identification, risk prioritization, and hazard controls for ORM assessments on common tasks and evolutions, or in developing ORM assessments specific to unique tasks or evolutions.

(4) Include ORM in the orientation and training of all military and civilian command personnel. The level of training will be commensurate with rank, experience, and leadership position.

(5) Include ORM training in individual development training course plans and individual development plans for both military and civilian personnel.

(6) Incorporate identified hazards, assessments, and controls into briefs, notices, and written plans.

(7) Conduct a deliberate risk assessment for all high-risk training events, command operations, tasks, and activities including new or complex evolutions. Define acceptable risk and possible contingencies for the evolution.

(8) Ensure command ORM evolution assessments and annual program self-assessments are completed per enclosure (4). Retain most current assessment until superseded.

7. <u>Records Management</u>. Records created as a result of this instruction, regardless of media and format, must be managed per Secretary of the Navy (SECNAV) Manual 5210.1 of January 2012.

8. <u>Review and Effective Date</u>. Per OPNAVINST 5215.17A, OPNAV N09F and COMNAVSAFECEN will review this instruction annually on the anniversary of its issuance date to ensure applicability, currency, and consistency with Federal, Department of Defense, SECNAV, and Navy policy and statutory authority using OPNAV 5215/40 Review of Instruction. This instruction will be in effect for 5 years, unless revised or cancelled in the interim, and will be reissued by the 5-year anniversary date if it is still required, unless it meets one of the exceptions in OPNAVINST 5215.17A, paragraph 9. Otherwise, if the instruction is no longer required, it will be processed for cancellation as soon as the need for cancellation is known following the guidance in OPNAV Manual 5215.1 of May 2016.

9. <u>Forms and Information Management Control</u>

   a. <u>Forms</u>. The forms in subparagraphs 9a(1) through 9a(3) are available on Naval Forms On-line, https://navalforms.documentservices.dla.mil/web/public/home.

      (1) OPNAV 3502/1 Evolution ORM Assessment Sheet.

      (2) OPNAV 3502/2 Tailorable Evolution ORM Assessment Sheet.

      (3) OPNAV 3502/3 ORM Program Assessment Sheet.

   b. <u>Information Management Control</u>. Data collections contained within this instruction are exempt from information management control per SECNAV Manual 5214.1 of December 2005, part IV, subparagraph 7g.

MARK L. LEAVITT
Special Assistant for
Safety Matters

Releasability and distribution:
This instruction is cleared for public release and is available electronically only, via Department of the Navy Issuances Web site: http://doni.documentservices.dla.mil

OPERATIONAL RISK MANAGEMENT (ORM) FUNDAMENTALS

1. Overview. This enclosure explains the concepts, principles, levels, and the process of ORM. It provides the foundation upon which to apply and integrate ORM for on- and off-duty operations, missions, or tasks.

2. Concepts of the ORM Process

    a. Is a decision-making tool used by personnel at all levels to increase effectiveness by identifying, assessing, and managing risks. By reducing the potential for loss, the probability of a successful mission is increased.

    b. Increases Navy's ability to make informed decisions by providing a standardized ORM process.

    c. Minimizes risks to acceptable levels, commensurate with mission accomplishment. The amount of risk the Navy may accept in war is much greater than what the Navy may accept in peace, but the process is the same. Correct application of the ORM process will reduce losses and associated costs resulting in more efficient use of resources.

    d. Applies to off-duty activities due to their own diverse set of hazards and risks. ORM must be practiced 24 hours a day, 7 days a week, and 365 days a year.

3. Terms. See enclosure (5).

4. Key Attributes of ORM

    a. ORM does:

        (1) enhance mission or task accomplishment by increasing the probability of success;

        (2) minimize risk to acceptable levels commensurate with the benefit or value of mission or task accomplishment, while providing a method to effectively manage resources;

        (3) enhance decision-making skills based on a systematic, reasoned, and repeatable process;

        (4) provide a systematic structure to perform risk assessments;

        (5) provide improved confidence for individuals to make informed risk decisions (adequate risk analysis provides a clearer picture of the hazards and of unit capabilities);

(6) preserve personnel and materiel by avoiding unnecessary risk, thus reducing mishaps and the associated costs;

(7) provide an adaptive process for continuous feedback through the planning, preparation, and execution phases of any evolution; and

(8) identify feasible and effective control measures, particularly where specific standards do not exist.

b. ORM does not:

(1) inhibit flexibility, initiative, or accountability;

(2) remove risk altogether or support a "zero defect" mindset;

(3) remove the necessity for practice, drills, rehearsals, tactics, techniques, and procedures; and

(4) sanction or justify violating the law and Department of Defense or Navy standards or criteria.

5. <u>Principles of ORM</u>. There are four basic principles that provide the foundation for ORM and the framework for implementing the ORM process.

a. <u>Accept Risk when Benefits Outweigh the Cost</u>. The process of weighing risks against the benefits and value of the mission or task helps to maximize success. Balancing costs and benefits is a subjective process. Therefore, personnel with knowledge and experience of the mission or task must be engaged when making risk decisions.

b. <u>Accept No Unnecessary Risk</u>. If all detectable hazards have not been identified, then unnecessary risks are being accepted. Additionally, an unnecessary risk is any risk that, if taken, will not contribute meaningfully to mission or task accomplishment, or will needlessly jeopardize personnel or materiel. The ORM process identifies hazards that might otherwise go unidentified and provides tools to reduce or offset risk. The acceptance of risk does not equate to the imprudent willingness to gamble. Take only risks that are necessary to accomplish the mission or task.

c. <u>Anticipate and Manage Risk by Planning</u>. Integrating ORM into planning at all levels and as early as possible provides the greatest opportunity to make well-informed risk decisions and implement effective risk controls. This enhances the overall effectiveness of ORM and often reduces costs. Thorough planning identifies associated hazards and the steps necessary to complete the task or mission.

d. <u>Make Risk Decisions at the Right Level</u>. Anyone can make a risk decision. However, the appropriate level for risk decisions is the person who can make decisions to eliminate or minimize the hazard, implement controls to reduce the risk, or accept the risk. Leaders at all levels must ensure that personnel know how much risk they can accept and when to elevate the decision to a higher level. Ensuring that risk decisions are made at the appropriate level will establish clear accountability. Therefore, those accountable for the mission must be included in the ORM process. If the commander, leader, or individual responsible for executing the mission or task determines that the controls available to them will not reduce risk to an acceptable level, they must elevate the risk decisions to the next level in the chain of command.

6. <u>Levels of ORM</u>. The ORM process is applied on three levels: in-depth, deliberate, and time critical. The basic factor that differentiates each level is time; that is the amount of time available to dedicate to the preparation and planning of missions or tasks. Figure 1-1 illustrates the levels of ORM and how they relate to each other. Note that there is no defined line where one level stops and the next begins.

a. <u>In-depth</u>. The in-depth level refers to situations when time is not a limiting factor and the "right" answer is required for a successful mission or task. Thorough research and analysis of available data, use of diagrams and analysis tools, and formal testing or long term tracking of associated hazards are some of the tools used at this level. Other examples of application of ORM at the in-depth level include, but are not limited to: long term planning of complex or contingency operations; technical standards and system hazard management applied in engineering design during acquisition and introduction of new equipment and systems; development of tactics and training curricula; and major system overhaul or repair.

b. <u>Deliberate</u>. The deliberate level refers to situations when there is ample time to apply the ORM process to the detailed planning to obtain the "best" answer required of a mission or task. At this level, the planning primarily uses experienced personnel and brainstorming and is most effective when done in a group. The Navy planning process is a good example of ORM application integrated at this level. Other examples include: planning of unit missions, tasks, or events; review of SOPs, maintenance or training procedures; recreational activities; and the development of damage control and emergency response plans.

c. <u>Time Critical</u>. This is the level at which personnel operate on a daily basis both on- and off-duty. The time critical level is best described as being at the point of commencing or during execution of a mission or task. At this level there is little or no time to make a plan. An on-the-run mental or verbal assessment of the new, changed, or changing situation is the best one can do. Time is limited in this situation, so the application of the five-step process has proven impractical and ineffective. The Navy has adopted the ABC*D* Model, enclosure (2), to facilitate use of ORM at the time critical level.
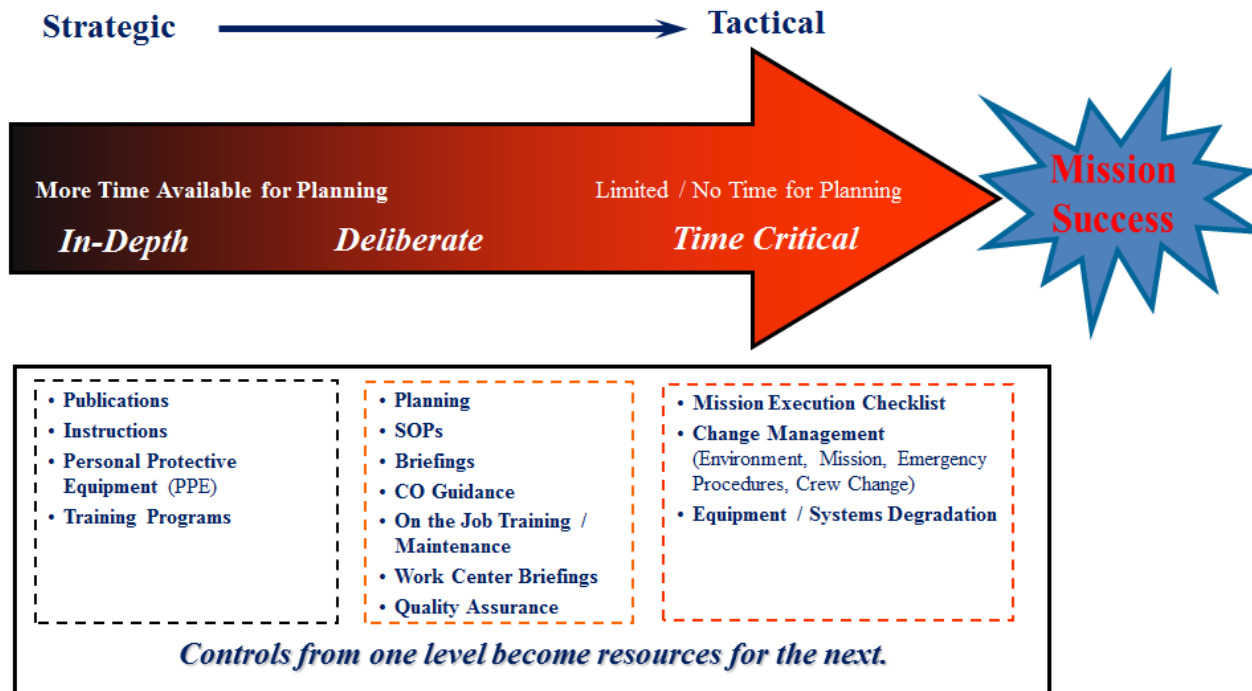
Enclosure (1)

Figure 1-1: Relationship Between the ORM Levels

7. ORM Process

    a. Overview. The Department of the Navy adopted the five-step process (figure 1-2) for its systematic, continuous, and repeatable qualities. The process comprises of:

        (1) identify the hazards;

        (2) assess the hazards;

        (3) make risk decisions;

        (4) implement controls; and

        (5) supervise.

Enclosure (1)

ORM PROCESS CYCLE

Identify the Hazards

Analyze Mission | List Hazards | Determine Hazard Root Causes

Missions

Lessons Learned

New Hazards

Supervise
Monitor
Review
Feedback

Assess the Hazards
Assess Severity
Assess Probability
Complete Risk Assessment

Adjust Controls

Determine Residual Risk

Implement Controls
Make Implementation Clear
Establish Accountability
Provide Support

Make Risk Decisions
Identify Control Options
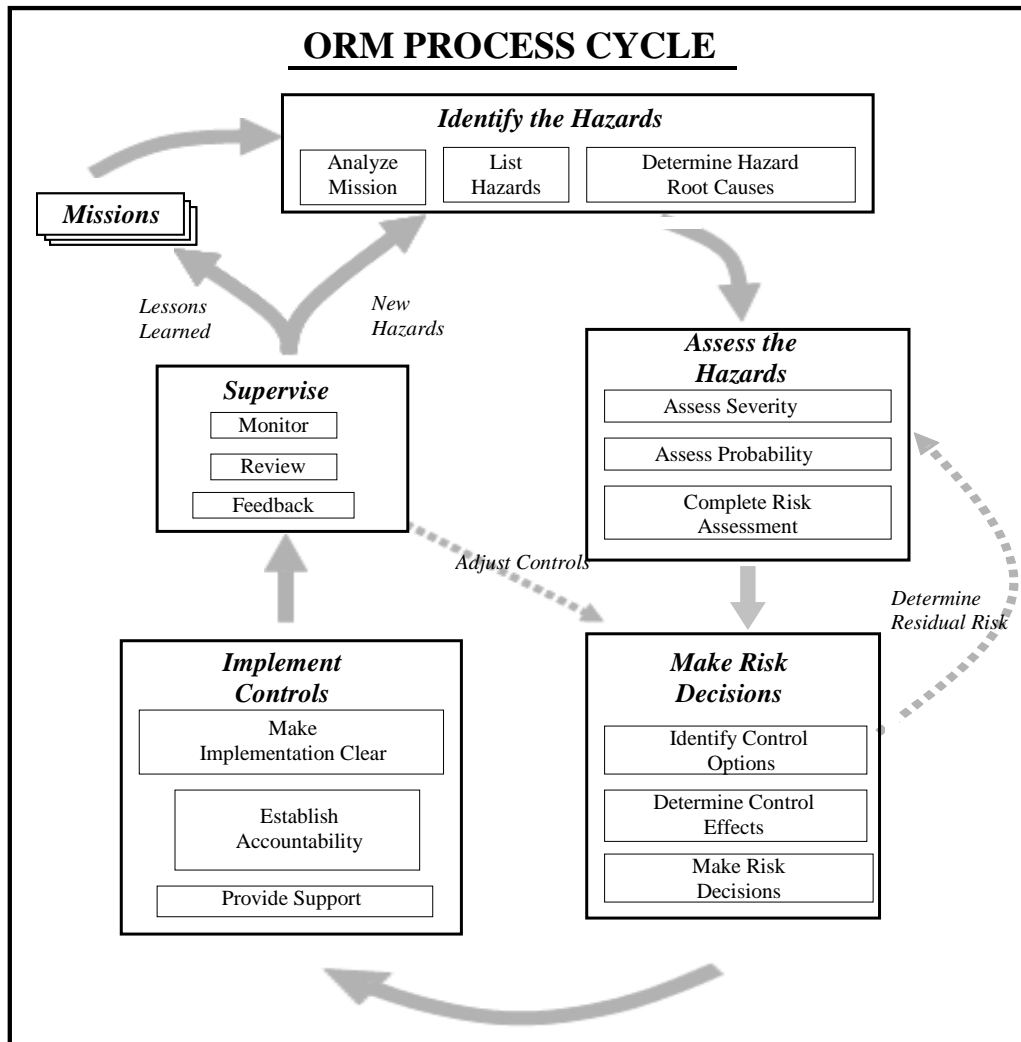Determine Control Effects
Make Risk Decisions

Figure 1-2: The Five-Step ORM Process

b. <u>Process</u>. The first two steps comprise the risk assessment portion of ORM and provide enhanced awareness and understanding of a given situation. This awareness builds confidence and allows for timely, efficient, and effective protective measures. The remaining three steps are the essential follow-through actions to either eliminate the hazard or mitigate the risks.

c. <u>Application Guidelines</u>. The general guidelines in subparagraphs 7c(1) through 7c(5) are provided in order to get the maximum benefit and value from this process.

(1) <u>Apply the Process in Sequence</u>. Each element is a building block for the next one. Until hazard identification is complete, it is not possible to properly prioritize risk control efforts.

(2) Maintain Balance in the Process. All parts of the process are important. For example, if only an hour is available to apply the ORM process, the time must be allocated to ensure the total process can be completed. Spending 50 minutes of the hour on identification of hazards may not leave enough time to apply the other parts of the process effectively. Of course, it is simplistic to rigidly insist that each of the parts is allocated 10 minutes. The objective is to assess the time and resources available for ORM activities and allocate them to the actions in a manner most likely to produce the best overall result.

(3) Apply the Process as a Cycle. Referring to figure 1-2, notice that "supervise" feeds back into the beginning of the process as the situation changes. If during supervision additional hazards are identified or controls are determined to be ineffective, the process should be repeated and adjustments made appropriately.

(4) Involve People Fully. The only way to ensure the ORM process is effective is to involve the people actually exposed to the risks and those who possess subject matter expertise in the mission or task.

(5) Document the Process. Documenting the results of the ORM assessment helps to organize ideas, facilitate an effective briefing of the event, and provide a good reference during execution to evaluate how things are progressing. It also serves as a record for future use to capitalize on lessons learned in order to improve performance. At a minimum, the documentation should include a list of hazards assessed for risk with their risk controls, residual risks, and risk control supervision responsibilities noted. Two methods of documenting the process are contained in subparagraphs 7c(5)(a) and 7c(5)(b).

(a) Joint Risk Assessment Tool. This Web-based software application assists the user in completing a deliberate risk assessment. The software guides the user through each of the five steps in an intuitive fashion with help screens and process information. Upon completion of an assessment, reports can be printed and the assessment itself can be shared electronically. The joint risk assessment tool is available via a link on the COMNAVSAFECEN's ORM Web page, https://intelshare.intelink.gov/sites/navsafe/.

(b) Job Hazard Analysis. There are community hazard tracking databases available in the shipyard, research, or acquisition commands.

8. Five Steps of the ORM Process. The following subparagraphs 8a through 8e describe each step of the ORM process.

a. Identify the Hazards (Step 1). A hazard is any condition with the potential to negatively impact mission accomplishment or cause injury, death, or property damage. Hazard identification is the foundation of the entire ORM process. If a hazard is not identified, it cannot be controlled. The effort expended in identifying hazards will have a multiplier effect.

Enclosure (1)

Therefore, this step should be allotted a larger portion of the available time. There are three basic actions to be completed in this step, as per the following subparagraphs 8a(1) through 8a(3).

　　　(1) <u>Analyze the Mission</u>. Conduct analysis by reviewing the plans and orders describing the mission or task, identifying the specified and implied tasks, and defining the requirements and conditions needed to accomplish those tasks and, thus, accomplish the mission. From this, construct a chronological or sequential list of the major events and tasks in a mission or task, breaking the operation down into manageable phases. This is the complete picture of what is expected to happen; it assures all elements of a mission or task are evaluated for potential sources of risk.

　　　(2) <u>List the Hazards</u>. With the mission or task mapped out, each event in the sequence is reviewed for hazards. Hazards can be identified in many ways and from many sources. It is important to involve the operators and those with applicable experience. Review any appropriate reports, lessons learned, and instructions. If time permits, solicit additional expertise. Brainstorming is useful in this preliminary hazard analysis to identify hazards. Asking "what if," a means of thinking about what could go wrong, can help build on the preliminary hazard analysis or uncover additional hazards.

　　　(3) <u>Determine the Hazard Root Cause</u>. Make a list of the causes associated with each identified hazard. Often a hazard may have multiple causes, but it is important to identify the root cause. The root cause is the first link in the chain of events leading to mission or task degradation. One technique to help determine a root cause is to keep asking the question "Why?" With the causes identified, risk controls can be applied to mitigate the risk.

　　b. <u>Assess the Hazards (Step 2)</u>. 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, which ensures that controls are first identified for the most serious threat to mission or task accomplishment. The hazard list is intended for use as a guide to the relative priority of risks involved and not as an absolute order to follow.

　　　(1) <u>Severity</u>. This is an assessment of the potential consequence that can occur as a result of a hazard and is defined by the degree of injury, illness, property or environmental damage, loss of assets (time, money, personnel), or effect on the mission or task. Consideration must be given to exposure potential. For example, the more resources exposed to a hazard, the greater the potential severity. Severity categories are assigned Roman numerals per the criteria in table 1-1.

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.
Critical II	Significantly degraded mission capability or unit readiness. Permanent partial disability or severe injury or illness. Extensive damage to equipment or systems. Significant damage to property or the environment. Security failure. Significant collateral damage.
Moderate III	Degraded mission capability or unit readiness. Minor damage to equipment, systems, property, or the environment. Minor injury or illness.
Negligible IV	Little or no adverse impact on mission capability or unit readiness. Minimal threat to personnel, safety, or health. Slight equipment or systems damage, but fully functional and serviceable. Little or no property or environmental damage.

Table 1-1: Severity Categories

(2) Probability. This is a measure of the likelihood that given exposure to a hazard a potential consequence will occur and is defined by the assessment of such factors as location, exposure (cycles or hours of operation), affected populations, experience, or previously established statistical information. Probability categories are assigned a letter per the criteria in table 1-2.

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

Table 1-2: Probability Categories

Enclosure (1)

(3) Complete Risk Assessment. Combine the severity with the probability to determine the risk assessment code (RAC) or level of risk for each hazard, expressed as a single Arabic number. Although not required, the use of a matrix, as illustrated in figure 1-3 (see page 14), is helpful in identifying the RAC. In some cases, the worst credible consequence of a hazard may not correspond to the highest RAC for that hazard. For example, one hazard may have two potential consequences. The severity of the worst consequence (I) may be seldom (D), resulting in a RAC of 2 (H). The severity of the lesser consequence (II) may be likely (B), resulting in a RAC of 2 (H). 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.

(4) Risk Assessment Pitfalls. The following pitfalls in subparagraphs 8b(4)(a) through 8b(4)(g) should be avoided during the assessment.

(a) Over Optimism. Not being totally honest or not looking for root causes.

(b) Misrepresentation. Individual perspective may distort the data.

(c) Alarmism. "The sky is falling" or "worst case" estimates are used regardless of their possibility.

(d) Indiscrimination. All data is given equal weight.

(e) Prejudice. Subjective or hidden agendas are used vice facts.

(f) Inaccuracy. Bad or misunderstood data nullify accurate risk assessment.

(g) Enumeration. Difficulty in assigning a numerical value to human behavior.

c. Make Risk Decisions (Step 3). There are three basic actions which ultimately lead to making informed risk decisions: identifying control options, determining the effect of these controls on the hazard or risk, and ultimately deciding how to proceed.

(1) Identify Control Options. For each hazard, develop one or more control options that either avoid the hazard or reduce its risk to an acceptable level.

(a) Examples of criteria for establishing effective controls are listed in table 1-3.

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.

Table 1-3: Criteria for Effective Controls

(b) There are numerous control options which can be used to avoid or reduce risk. Subparagraphs 8c(1)(b)1 through 8c(1)(b)5 include some of these.

1. Reject the Risk. If overall risks exceed benefits or value, do not take the risk. Without the authority to apply the proper or necessary controls, rejecting the risk is a valid option and is a way to elevate the risk to the proper level.

2. Avoid the Risk. It may be possible to avoid specific risks by "going around" them or doing the mission or task in a different way. For example, risks associated with a night mission or task may be avoided by planning for daytime. This might present other hazards that would need to be identified and assessed.

3. Delay an Action. If there is no time deadline or other benefit or value to speedy accomplishment of a mission or task, it may be possible to reduce the risk by delaying the task. Over time, the situation may change and the risk may be eliminated, or additional risk control options may become available (additional resources, new technology, etc.) reducing the overall risk. For example, a mission or task may be postponed until more favorable weather reduces the risk.

4. Transfer the Risk. Risk may be reduced by transferring all or some portion of that mission or task to another individual, unit, or platform that is better positioned, more

survivable, or more expendable. Transference decreases the probability or severity of the risk to the total force. For example, the decision to fly a remotely operated vehicle into a high-risk environment instead of risking a manned vehicle is risk transference.

5. Compensate for the Risk. To ensure the success of critical missions or tasks and compensate for potential losses, assign redundant capabilities. For example, tasking a unit to deploy two aircraft to attack a single high value target increases the probability of mission success; or having spare parts in case of equipment malfunction.

(c) Some types of controls are following in subparagraphs 8c(1)(c)1 through 8c(1)(c)3.

1. Engineering Controls. These are controls that use engineering methods to eliminate or reduce risks by design, material selection, or substitution when technically or economically feasible.

2. Administrative Controls. These are controls that reduce risks through specific administrative actions, such as:

a. providing suitable warnings, markings, placards, signs and notices;

b. establishing written policies, programs, instructions, and SOPs;

c. conducting job and ORM training; and

d. limiting the exposure to a hazard (either by reducing the number of assets or personnel, or the length of time personnel are exposed).

3. Physical Controls. These controls take the form of barriers to guard against a hazard, such as: PPE, fences, or special oversight personnel.

(2) Determine Control Effects. With controls identified, the hazard should be re-assessed, taking into consideration the effect the control will have on the severity and probability. This refined risk assessment determines the residual risk for the hazard, assuming the implementation of selected controls. At this point, it is also appropriate to consider the cost (personnel, equipment, money, time, etc.) of the control and the possible interaction between controls. Do they work together?

(3) Make Risk Decisions. A key element of the risk decision is determining if the risk is acceptable. This decision must be made at the right level by the individual who can balance the risk against the mission or task potential benefit and value. This individual decides if controls are sufficient and acceptable and whether to accept the resulting residual risk. If it is determined that the risk level is too high, the development of additional or alternate controls, modifications,

changes, or rejecting the course of action becomes necessary. Leaders can use the risk assessment in conjunction with their commanders' guidance to communicate how much risk they are willing to allow subordinate leaders to accept. It is important to keep in mind that risk decisions are based on the residual risk, which is only valid if the selected controls are implemented and remain effective.

d. <u>Implement Controls (Step 4)</u>. Once the risk control decisions are made, the next step is implementation. This requires that the plan is clearly communicated to all the involved personnel, accountability is established, and necessary support is provided. Careful documentation of each step in the ORM process facilitates risk communication and the rational processes behind the ORM decisions.

(1) <u>Make Implementation Clear</u>. To make the implementation directive clear, consider using examples by providing pictures or charts, including job aids, etc. Provide a roadmap for implementation, a vision of the end state, and a description of expectations. Controls should be presented so they will be received positively by the intended audience. This can best be achieved by promoting user ownership.

(2) <u>Establish Accountability</u>. Accountability is important to effective ORM. Ultimately, the accountable person is the appropriate decision maker, the individual responsible for accomplishing the mission or task. However, successful implementation requires delegation of risk control actions. Those assigned should acknowledge the responsibility and be held accountable for the implementation.

(3) <u>Provide Support</u>. A properly applied control has the best chance for successful implementation. In addition to ongoing participation of the leadership, this requires:

(a) providing the personnel and resources necessary to implement the control measures;

(b) designing sustainability into the controls from the beginning; and

(c) employing the control with a feedback mechanism that will provide information on whether the control is achieving the intended purpose.

e. <u>Supervise (Step 5)</u>. Supervise and review involves determining the effectiveness of risk controls throughout the mission or task. This involves three actions: monitoring the effectiveness of risk controls; determining the need for further assessment of all or a portion of the mission or task due to an unanticipated change; and capturing lessons learned, both positive and negative.

(1) <u>Monitor</u>. Monitor the operation to ensure:

(a) controls are implemented correctly, are effective, and remain in place;

(b) action is taken to correct ineffective risk controls and reinitiate the ORM process in response to new hazards; and

(c) risks and controls are reevaluated any time the personnel, equipment, or mission tasks change, or new events are anticipated in an environment not identified in the initial ORM analysis.

(2) <u>Review</u>. When controls are applied and during the mission or task, a continuous systematic review must be accomplished to see if the risks versus the benefits and value are balanced. To determine if appropriate ORM controls were applied, compare the earlier risk assessment to the present risk assessment.

(a) To accomplish an effective review, those responsible for the mission or task should identify whether the actual cost is in line with expectations and determine what effect the risk control had on mission or task performance. It is difficult to evaluate the risk control by itself; therefore, the focus should be on the risk mitigation relative to the mission or task.

(b) Measurements are necessary to ensure accurate evaluations of how effectively controls reduce risks. Measurement can be done by simple observation, talking with personnel, or through more formal after action reports, surveys, and in-progress reviews.

(3) <u>Feedback</u>. A review by itself is not enough. A mission or task feedback system should be established to ensure that the corrective or preventative action taken was effective and that any newly discovered hazards identified during the mission or task are analyzed and corrective action taken. It is essential that the feedback system be designed to:

(a) inform all involved personnel;

(b) provide input back into the ORM process during execution of the mission or task;

(c) provide input into a lessons learned database for use by others or for the next event; and

(d) provide for formal or unit level training updates or revisions.

Enclosure (1)

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**	**Catastrophic** (Death, Loss of Asset, Mission Capability or Unit Readiness)	I	EH 1	EH 1	H 2	H 2	M 3
	Critical (Severe Injury or Damage, Significantly Degraded Mission Capability or Unit Readiness)	II	EH 1	H 2	H 2	M 3	L 4
	Moderate (Minor Injury or Damage, Degraded Mission Capability or Unit Readiness)	III	H 2	M 3	M 3	L 4	L 4
	Negligible (Minimal Injury or Damage, Little or No Impact to Mission Readiness or Unit Readiness)	IV	M 3	L 4	L 4	L 4	L 4

Risk Assessment Levels

EH=Extremely High 1 **H=High** 2 **M=Medium** 3 **L=Low** 4

Figure 1-3: Basic Risk Assessment Matrix

OPERATIONAL RISK MANAGEMENT (ORM)
TIME CRITICAL RISK MANAGEMENT (TCRM)

1. <u>Overview</u>. This enclosure is a practical explanation of TCRM concepts and fundamentals which are necessary for an understanding of the ABC*D* Model and its use as a personal ORM tool.

2. <u>Concept</u>

    a. TCRM refers to applying ORM at the point of commencing or during execution of a mission or task, at the time critical level. However, the methodology of applying the deliberate five-step process in a time critical situation has proven to be impractical. The ORM model manager selected the ABC*D* Model (figure 2-1) based on its foundation in scientific principles, ability to focus individuals, increase their situational awareness (SA), and improve their performance in the time critical environment. It consists of graphic representations or icons and an easy to remember mnemonic "ABC*D*," per the following:

> A – Assess the situation
> B – Balance resources
> C – Communicate to others
> *D* – *D*o and *D*ebrief the event

    b. It is in the execution of the task or mission, where time and resources are most limited, that an individual and organization must learn to be proactive and responsive to ensure mission success.

3. <u>Discussion</u>

    a. Experience is the result of all learning events. Therefore, everyone has some experience upon which to draw when responding to an event. The task for leadership is to marshal and coordinate the experience from all personnel involved in a mission or a task. The ABC*D* Model establishes a structure for individuals, teams, or crews to learn new or complex behaviors, skills, or values, or gain understanding. Using the ABC*D* Model in a personal or professional application daily will result in deep memory of those learned qualities. When individuals execute tasks, they have an expectation of a response consistent with their experience. Likewise, leadership and other teammates or crew will have an expectation of a response consistent with their experience. Until the incorporation of the ABC*D* Model, there were inconsistent team or individual responses based on different levels of experience. By recalling and communicating with the same ABC*D* Model, the ability to match a previous mission or task to a new experience provides uniform and consistent responses.

b. The AB*CD* Model provides a 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 from a more complex situation resulting from additive conditions, crew factors, or task loading. Training to the AB*CD* Model will embed a set of patterns that will help personnel recognize and recall a set of actions to counter risk even when distracted. This simple and easy to remember mnemonic provides individuals with a means to evaluate risks and formulate mitigation strategies on-the-run and can easily be applied in both on- and off-duty situations.

c. The following subparagraphs 3c(1) through 3c(6) include understandings to the nature of TCRM decisions.

(1) Using the AB*CD* Model daily creates a habit and trains the brain to continue thinking under duress or stress.

(a) The model is designed to assist when:

1. working in a dynamic environment;

2. monitoring a static or routine situation to capture errors; and

3. making a decision with partial information.

(b) In all three situations, it is necessary to develop habits that trigger the TCRM process to "Assess" the situation, "Balance" resources, "Communicate" to others, "*D*o and *D*ebrief" the event.

(c) Additionally, these situations require the continuous use of "Assess," "Balance," "Communicate," "*D*o and *D*ebrief" as necessary. An added benefit and value of the AB*CD* Model is the continuous improvement of skills and knowledge which occurs with self-assessment.

(2) Time critical decision-making requires a unique set of skills, which must be practiced.

(3) TCRM relies on the decision maker's previous experience, training, and availability to recall resources from the in-depth or deliberate ORM process.

(4) Time critical decisions are based on pattern matching to past training and experience and the recall of resources in the AB*CD* model format.

(5) In a time critical event, personnel assess the situation, balance their resources, communicate to all concerned, and do some action to complete the mission or task, or mitigate risk by acting on the condition, then follow-up by debriefing the results to feedback lessons learned.

(6) Standardizing the communication structure in a time critical situation reduces conflicts and errors, and improves the ability to manage risk and resources.

4. Terms. See enclosure (5).

5. ABC*D* Model. Figure 2-1 is a visual reminder or icon to assist in the recall of the concepts and principles behind the ABC*D* Model and improve communications during an event. The model identifies and provides a focus for personal or team communication to counter risks or raise the SA during the event.
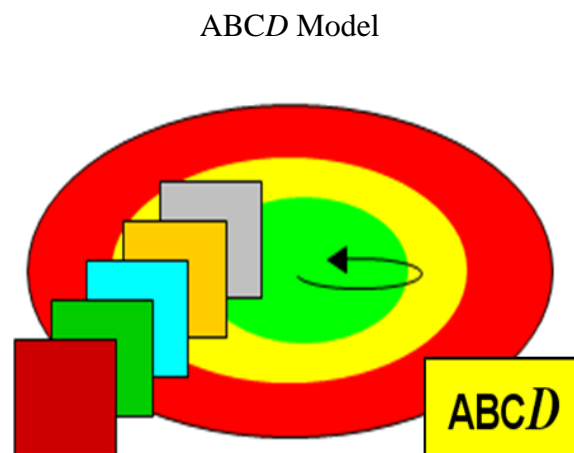
ABC*D* Model

Figure 2-1: Icons of the ABC*D* Model

a. The target section of figure 2-1 provides a visual representation of the potential for consequential error or SA. Green indicates errors may occur, but errors will be caught by the individual. Yellow indicates the potential for consequential errors have increased. Red indicates errors may occur that cannot be caught and, therefore, become consequential to the task or mission. The target is used during team communication to focus one or more individuals into an understanding of situational conditions, or an individual can use it as a self-assessment tool to increase SA. The swooping arrow represents the return to good SA.

b. The blocks represent multiple levels of resources (i.e., policies, tactics, procedures, processes, checklists, automation, briefings, external resources, knowledge, skills, and techniques). The redundant alignment is designed to illustrate stacking resources to prevent errors that may become consequential, such as a resource improperly used, or a problem within a resource (i.e., flawed checklist or missing procedure).

c. The ABC*D* block represents the TCRM mnemonic. Each letter represents an action to be taken by the individual to mitigate personal or mission related risk by improving SA.

6. <u>Process</u>. The AB*CD* Model is not a replacement for the five-step ORM process or a different process of ORM. It is the practical application of the five-step process in a time critical environment. Figure 2-2 shows the relationship between the five-step ORM process and TCRM using the AB*CD* Model. The breakdown in figure 2-2 explains each letter and expected action.
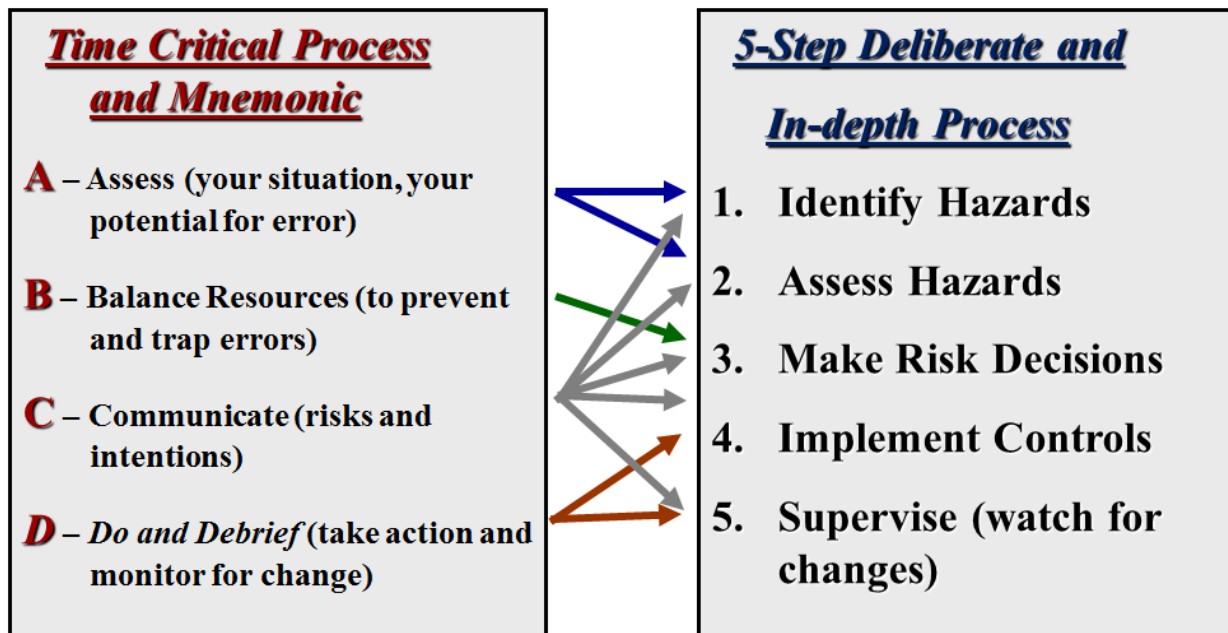

Figure 2-2: TCRM link to the Five-Step ORM Process

a. <u>Assess the Situation</u>. The "A" in the mnemonic combines the first two steps of the five-step ORM process. Assessing risk in a time-critical environment, or where the complexity or perception of overall risk is low requires the key elements of hazard and risk identification and understanding the negative effects associated with those risks and hazards. 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 time critical 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 SA. Unlike in-depth or deliberate ORM, where there is time to assess hazards, it is an individual's ability to comprehend the situation and apply appropriate, available resources quickly and effectively that can mean the difference between success and failure.

b. <u>Balance Resources</u>. The "B" in the mnemonic is specifically tied to making risk decisions (step 3 of the five-step process) to mitigate risks. After assessing the situation, personnel must consider using the resources created for the mission or activity. Thorough planning prior to an event will increase the availability of the appropriate resources or "blocks"

to effectively mitigate hazards. For example, to have an understanding of the task or mission, proper training, using PPE and knowing personal limitations, are essential aspects of balancing resources.

   c. Communicate to Others. Good communication is essential. "C" is a reminder to explicitly communicate during the event, and it is tied to all steps of the five-step process. Maintaining good SA of additive conditions, task loading, and crew factors is critical to communication. This is 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. It is crucial that self-communication takes place. Asking, "Who needs to know about the situation?", "Who can help or assist?", "Who can provide back-up?" or "Can this be done differently?", are just a few examples of questions individuals can ask to ensure positive and effective communication takes place.

   d. *Do* and *Debrief*. The "*D*" in the mnemonic is tied to steps 4 and 5 of the five-step process. Do the mission. However, to be successful in the task or mission, the individual must select and use the appropriate resources while adjusting actions as required, ensuring event success. A vital key to the process is ensuring that the feedback loop or "Debrief" aspect of the "*D*" is performed. It is beneficial for individuals to follow through and complete the "ABC*D*" mnemonic loop by identifying what worked, what did not work, and ensuring documented lessons learned are disseminated. Debriefs will improve performance, mitigate risks in future activities, and are essential in completing the ABC*D* loop. Asking questions such as, "Was our assessment accurate?", "Were we lucky?", "How well did we use the resources?", "Was the communication effective?", "What conditions caused us to enter the yellow or red zone?" and "What can we do to improve the events in the future?", are a few examples of questions individuals can ask in the debrief to ensure future activities are improved and risks are reduced.

7. Summary. The practical use of the ABC*D* Model by all Navy personnel will sustain a responsive capability to effectively meet personal challenges or mission contingencies now and in the future.

OPERATIONAL RISK MANAGEMENT (ORM) TRAINING CONTINUUM

1. Overview. An individual's skill set for ORM application must be integrated into the knowledge, skills, and abilities learned throughout a naval career. ORM is most effective when included within the occupational learning structure. Learning the ORM process independent of necessary professional skills is an ineffective educational strategy. Therefore, a career-long ORM training continuum must be infused, targeted, and tailored to the appropriate leadership or occupational learning levels within the current training infrastructure. For the training managers, adding ORM concepts will require thoughtful analysis of all the 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 ORM to the training.

2. Continuum. Figure 3-1 (see page 5) 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 ORM training. The separation between these is not hard and fast as overlaps are a natural part of any Navy career progression.

    a. Individual

        (1) Most individuals will enter military service without formal ORM skills, but will likely have made risk decisions in a time critical situation. With the transition to a military occupation, those same decisions will likely have an impact on a team, mission, or task. Therefore, every individual must be trained to manage risk using the ORM principles and process.

        (2) The accession point of military service is the first structured encounter with formal military education and training for the individual and offers a one-time opportunity to introduce and integrate ORM concepts with initial military skills training. The alignment of basic training and ORM concepts will instill a confidence in the trainee that ORM 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 ORM mindset.

        (3) The duties of the new officer or enlisted person are focused on execution of tasks and, as such, they operate primarily at the time critical level. Therefore, it is logical that their ORM introduction focus on TCRM. The details of which are discussed in enclosure (2).

    b. Supervisor. For the purposes of this discussion, the supervisor is broadly categorized as anyone who oversees and is responsible for the actions of others. As such, a supervisor models behaviors and mentors subordinates every day. Those behaviors should include ORM 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. It is appropriate that the focus of supervisors' ORM training be tailored toward these skills. Thus supervisors'

training must not only build on earlier TCRM skills but provide them the skills and tools necessary to conduct ORM 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.

c. Assistant. The command ORM manager must select qualified ORM assistants - at least one officer, one senior enlisted, or a civilian equivalent - to assist in performing risk assessments and ensure ORM is integrated appropriately across the command, such as in briefs, plans, and command instructions. The ORM assistants are the SMEs and must demonstrate a solid comprehension of all ORM concepts and principles. In addition to ORM knowledge, assistants must be given the skills necessary to facilitate the command integration and ORM training. ORM assistants' training must include ORM application and integration training and appropriate prerequisites.

d. Manager. The XO, deputy OIC, or civilian equivalent, as applicable, must be designated as the command ORM manager. The ORM manager is responsible for making the decisions to accept risk or elevate it up the chain of command. They are also responsible to provide the leadership, tools, resources, and controls for their personnel to successfully complete assigned missions and tasks. The ORM training must be tailored to a more strategic application where preservation of resources, personnel, and mission or task accomplishment is paramount.

e. ORM Training Focus. As discussed in paragraph 1, it is important to target ORM training to the audience and the environment in which they operate. It must be relevant, progressive, and sequential. Figure 3-2 illustrates graphically the shift which should occur in the focus of ORM training as the individual progresses through a career and their responsibilities change. The training needs to focus on off-duty, as well as on-duty, as an off-duty loss also decreases readiness and, therefore, mission or task accomplishment.
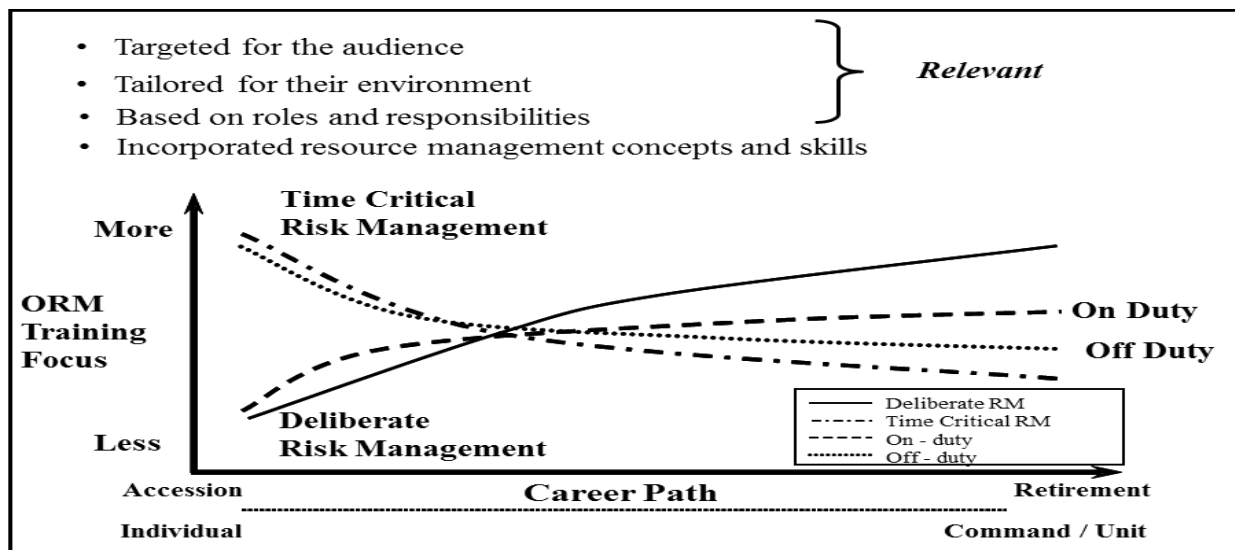

Figure 3-2: Focus of ORM Training Throughout a Career

3. ORM Training Requirements

    a. ORM Training. ORM training is available in many formats and through various venues.
The responsibility for conducting and ensuring the training is completed is detailed under
paragraph 6 of this instruction. This section specifically addresses the ORM training
requirements for individuals.

    b. Periodicity. Individual ORM training periodicity is outlined in table 3-1.

Level	Periodicity	Training
Individual	Annually	Command Directed (see the following "Note")
	Triennially	"Managing Your Risk"
Supervisor	Upon initial assignment of supervisory responsibilities and every 36 months while assigned at command	"Managing Your Team's Risk"
Assistant	When selected as an ORM assistant	"Leading Risk Management Integration"
Manager	Every new tour of duty (Every 12 months for civil service mariner chief mates and first officers on Military Sealift Command vessels)	"Directing Your Command's Risk Management"

Table 3-1: ORM Training Requirements

Note: For this instruction, every command must conduct annual ORM training. Training
may be accomplished by these examples: ORM stand downs, command ORM
indoctrination, ORM immersion training, etc. ORM GMT is one of the elective GMT
courses that a command can choose to meet the requirement. It will continue to be
updated and available at the Navy e-Learning library (under ORM) for periodic use by
the command when directed.

4. Course Access. All ORM training is available at the online Navy e-Learning management
system Web site (https://learning.nel.navy.mil). ORM training, videos, lesson guides, and
materials are available through the ORM model manager, school houses, or other sources.
Training requirements should be tailored to the specific environment, both physical and
operational, of the command. Additionally, courses may be completed through the ORM mobile
application available for download on iPhone, iPad, or Android devices at the appropriate
application store for preferred operating system.

a.   Department of the Navy personnel may use the application to complete their annual mandatory training. End-of-course completions can be e-mailed to Fleet Training Management and Planning System (FLTMPS) for display in the electronic training jacket.

b.   Users should retain course completion certificate e-mails in their mobile phone sent items folder until successful posting in their electronic training jacket or FLTMPS is verified.

c.   If completion does not appear in electronic training jacket or FLTMPS after 72 hours, users may wish to forward a copy of the e-mail to their supervisor or FLTMPS coordinator of training as verification of completion. If needed, the FLTMPS coordinator can record course completion manually using the FLTMPS Web site at https://ntmpsweb.ncdc.navy.mil/fltmps/.

d.   For any questions regarding FLTMPS, contact FLTMPS support office via e-mail at ntmps.support@navy.mil.

		Continuum Enlisted				Continuum Officer			
	RTC	E-1 to E-3	E-4 to E-6	E-7 to E-8	E-9	Accessions	O-1 to O-2 / O-3 to O-4	O-5 to O-6	Flag
Experience		Technical Qualifications and Certifications	Work Center Supervisor; Divisional LPO; Small Team Leader	Divisional LCPO; Departmental LCPO; Command Senior Chief/COB	Departmental LCPO; CMC	USNA; ROTC; OCS	Community-Managed Career Paths	CMD/MAJCOM; Staff/Joint	Succession Planning
Education		Introductory PME	Basic PME	Primary PME; SEA	KEYSTONE	Bachelor's Degree	Primary PME; NPS/JPME I; Advanced Education	JPME II; Advanced Education/Fellowships	CAPSTONE; PINNACLE; C/JFMCC
Training	Basic Military Training	Navy Military Training "A" School	PO INDOC; E-5/E-6 Leadership Courses; Navy Military Training "C" School	CPO Sel Training; CPO Mess Training; CPO 365 (Phases I, II); Fleet CPO Training	Command Leadership School (CMC/COB)	Basic Military Training	Community-Specific Training; Intermediate Leadership Training	Advanced Leadership Training; Command Leadership School (PXO, PCO, MCO)	NFLEX; NPS Flag Courses
	RTC to E-5 Leadership courses, Time Critical Risk Management focus/"C" school and E-6 Leadership courses transition to Deliberate ORM focus/Divisional LCPO and above focus on in-Depth ORM. – GMT- Mandated Training (SAPR, IA, etc.; other recurring annual training)					Accessions to O-2, Time Critical Risk Management focus/O-3 and above transition to Deliberate ORM focus/Department Head and above focus on in-Depth ORM. – GMT- Mandated Training (SAPR, IA, etc.; other recurring annual training)			
Personal Development	Learning and Development Roadmaps – Professional Qualifications – – Professional Reading – – Tuition Assistance –					Self-Awareness Tools, 360 Evaluations, Individual Development Plans (IDPs) – Professional Qualifications – – Professional Reading –			
	LEADER DEVELOPMENT OUTCOMES					*LEADER DEVELOPMENT OUTCOMES*			

(Left margin label: Core Elements)

Figure 3-1: ORM Training Continuum (see key below)

Note

ORM is a process that builds upon itself, depending on the situation the Service member will apply the appropriate level of ORM. TCRM is used by all personnel during execution of the mission or task assigned. That is why it is important to build on the foundation of TCRM training provided to new accession personnel as they move and grow throughout their career but not abandon the foundation of TCRM as they build new skill sets in deliberate and in-depth ORM training.

NST 3500.39D

Figure 3-1 Key

Acronym	Meaning	Acronym	Meaning
CMC	command master chief	OCS	Officer Candidate School
CMD	command	PCO	prospective commanding officer
COB	chief of the boat	PME	professional military education
CPO	chief petty officer	PO Indoc	petty officer indoctriniation
IA	individual augmentee	PQS	personnel qualification standards
JPME	joint professional military education	PXO	prospective executive officer
LPO	leading petty officer	ROTC	Reserve Officer Training Corps
MAJCOM	major command	RTC	Recruit Training Command
MCC	major command course	SAPR	sexual assault prevention and response
NFLEX	Navy Flag and Senior Executive Training Symposium	SEA	Senior Enlisted Academy
NPS	Naval Postgraduate School	USNA	United States Naval Academy

6   Enclosure (3)

OPERATIONAL RISK MANAGEMENT (ORM)
EVOLUTION AND PROGRAM ASSESSMENTS

1. Purpose. ORM assessments establish a method of measuring the implementation of ORM as directed by this instruction, accountability for ORM integration, and feedback on the effectiveness of ORM training.

2. Background. The ORM evolution assessments and program assessments are intended to be integrated within the existing assessment and evaluation structures.

3. ORM Assessment Types. There are two types of ORM assessments that can be used by any activity or command for self-assessment, if desired, or as required by higher authority: evolution assessment and program assessment. Assessment commands will develop a standardized ORM scoring mechanism for common platforms to communicate overall aggregated command hazards, risk, and decision levels across units operating together. ORM must be assessed with focus on operational-level risk-to-force and risk-to-mission assessments in decision-making processes. Command ORM assistants will utilize these forms in assessing commands program compliance (annually) and evolution assessment during normal operations to analyze trends regarding strengths and weaknesses in execution of ORM for mission accomplishment.

    a. Evolution Assessment. The ORM evolution assessment is an evaluation of a unit, staff, or group's application of the ORM principles and processes during execution of an evolution. All assessment, evaluation, and inspection commands will integrate ORM evolution assessments into existing assessment, evaluation, and inspection processes. All high-risk training events, command operations, tasks, and activities must use the deliberate risk assessment process. Make recommendations to fleet commanders with respect to ORM training, execution, and policy via the Fleet Operational Safety Council and Fleet Operational Safety Board, as appropriate. Use OPNAV 3502/1 or OPNAV 3502/2 Tailorable Evolution ORM Assessment Sheet.

    b. Program Assessment. The ORM program assessment is an evaluation of ORM integration into the command's policies and training and the compliance with ORM directives. It can be used as an internal self-assessment or by activities external to the evaluated command. All Navy commands conduct an ORM program assessment using OPNAV 3502/3 ORM Program Assessment Sheet at least annually to allow command leadership and external evaluators the ability to analyze trends regarding program strengths and weaknesses.

4. Assessment Command ORM Point of Contact (POC). Assessment command safety officer may be the ORM POC and serve as the command SME on ORM (as outlined in this instruction). Additional responsibilities will include providing local ORM assessor training, and, if required, coordinate with the ORM model manager for tailored ORM training, evaluation solutions, and assist visits. The POC must support the command safety officer in the execution of his or her duties.

5. <u>Logs and Records</u>. Commands will maintain copies of most recent ORM program and evolution assessments.

    <u>Note</u>: Best practices, lessons learned, and training or program deficiencies for unit training must be routed to the immediate superior in command per this instruction.

OPERATIONAL RISK MANAGEMENT (ORM) GLOSSARY

1. Abbreviations and Acronyms

BUMED	Bureau of Medicine and Surgery
COMNAVSAFECEN	Commander, Naval Safety Center
FLTMPS	Fleet Training Management and Planning System
GMT	general military training
NAVLEADETHCTR	Naval Leadership and Ethics Center
NAVWARCOL	Naval War College
NETC	Naval Education and Training Command
NSTC	Naval Service Training Command
OIC	officer in charge
OPNAV	Office of the Chief of Naval Operations
ORM	operational risk management
POC	point of contact
PPE	personal protective equipment
RAC	risk assessment code
SA	situational awareness
SECNAV	Secretary of the Navy
SME	subject matter expert
SOP	standard operating procedure
TCRM	time critical risk management
USNA	United States Naval Academy
XO	executive officer

2. Terms and Definitions. The definitions provided are applicable in context with ORM.

   a. "ABC*D*." The mnemonic for the four actions of TCRM as represented in enclosure (2) of this instruction.

   b. Acceptable Risk. The portion of identified risk that is allowed to persist during the mission or task.

   c. Additive Condition. Refers to all items that compete for an individual's or crew's attention during the execution of a mission or task. Examples include: equipment malfunctions, change in weather, multiple players, unpredictable information, and change to the mission. Additive conditions may increase task loading or uncertainty and lead to distraction or channelized focus.

d. Brainstorming. 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 particularly effective when participants feel free to offer their ideas without fear of criticism.

e. Command (Unit or Organizational) ORM Integration. Integrating ORM into the command relates to reviewing procedures, instructions, and processes; identifying hazards; and creating controls associated with those hazards. It is not intended nor should appear to be a "bolt-on" program. Integration should create a transparent application of ORM in the everyday working environment.

f. Command ORM Manager. XO, deputy OIC, or civilian equivalent, qualified per this instruction, is responsible for implementing ORM principles, processes, and policy within the unit.

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

h. Controls. Actions taken or measures put in place to eliminate a hazard or reduce the associated identified risk. Some types of controls include engineering controls, administrative controls, and physical controls.

i. Crew Factors. Refers to human factors which affect the capabilities of the individual, crew, or team, and can increase the potential for errors. This includes such things as attitudes, personalities, level of training, experience, fatigue, and physiological factors.

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

k. 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).

l. High-Risk Training. Refer to OPNAVINST 1500.75D.

m. "I AM IS." A mnemonic for the five-step ORM process – "Identify" hazards, "Assess" hazards, "Make" risk decisions, "Implement" controls, "Supervise."

n. Mishap. Any unplanned or unexpected event, or series of events, causing death, injury, occupational illness; damage, including days away from work, job transfer or restriction; or

unexpected event, or series of events, causing materiel or assets to be lost or damaged, where if some or all causal factors that might have been corrected were corrected, the event or series of events would have been unlikely to occur.

o. Navy Planning Process. The process by which a commander can effectively plan for and execute operations, ensure the employment of forces is linked to objectives, and integrate naval operations seamlessly with the actions of a joint force. As described in reference (b), it is a six-step process which integrates ORM principles and process.

p. Near-Hit or Near-Miss. Interchangeable word sets to identify a chance mishap event avoidance. An act or event that may have resulted in a mishap where the death, injury, illness or loss of asset was avoided merely by chance. Near misses constitute the greatest number of incidents Navywide. When the event is recognized as a near-miss it may be debriefed as a near-hit to emphasize the severity of the event. Analyzing the near-miss patterns will likely lead to areas where improved risk mitigation controls are needed. Under-reporting is prevalent throughout the Navy. Therefore, everyone must be encouraged to report near-misses or near-hits, and commands must investigate and analyze the circumstances surrounding the near-incident to determine if additional mitigation is necessary.

q. Operational Analysis. A chronological or sequential list of the major events or elements in a mission or task. This is the complete picture of what is expected to happen and assures all elements of a mission or task are evaluated for all potential hazards.

r. Operational Risk Management (ORM). The Navy's primary process to assess the potential for mission failure, inadequate force protection, and practices of personal risk. The process is applicable across the spectrum of operations and tasks, both on- and off-duty. ORM is a decision-making tool used by all personnel to increase effectiveness by identifying hazards and reducing the risk associated with each hazard, which in turn greatly increases the probability of mission success. ORM is exceptionally suitable for reducing the inherent risk in high-risk training. The three levels - in-depth, deliberate, and time-critical - are used throughout training development to mission execution.

s. ORM Assistant. Designated unit level individual who is an SME on ORM principles and concepts, qualified per this instruction, and supports the command ORM manager in implementing risk management within their unit.

t. ORM Model Manager. SME directly responsible for issuing policy guidance and standards and providing administrative oversight for the Navy's ORM Program.

u. Preliminary Hazard Analysis. A means to create an initial list of hazards that may exist in an operation, task, or mission. This builds on the operational analysis and entails listing hazards and associated causes.

v. Probability. A measure of the likelihood that given exposure to a hazard, a potential consequence mishap will occur.

w. Residual Risk. Risk remaining after controls have been identified and selected.

x. Resource

(1) In general, a resource is something that can be used to develop controls and include time, money, people, or equipment.

(2) With respect to TCRM, a resource is something used to prevent errors, speed up decision-making, or improve team coordination. They are typically developed as controls at the in-depth or deliberate levels of ORM. They are broadly grouped into the following categories: policies, procedures, and routines; checklists; automation; briefings and external resources; and knowledge, skills, and techniques.

y. 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.

z. Risk Assessment. A structured process to identify and assess hazards. An expression of potential harm, described in terms of severity, probability, and exposure to hazards. Accomplished in the first two steps of the ORM process.

aa. Risk Assessment Code (RAC). An expression of the risk associated with a hazard that combines its severity and probability into a single alpha-numeric code which can be used to help determine hazard abatement priorities. This is typically accomplished through the use of a risk assessment matrix.

ab. Risk Decision. The decision to accept or not accept the risk(s) associated with an action; made by the commander, leader, or individual responsible for performing that action.

ac. Root Cause. Any basic underlying cause that was not in turn a result of more important underlying causes. Describes the depth in the causal chain where an intervention could reasonably be implemented to change performance and 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.

ad. Severity. This is an assessment of the potential consequence that can or could occur as a result of a hazard and is defined by the degree of injury, illness, property or environmental damage, loss of asset (time, money, personnel), or effect on the mission or task. When analyzing risk, it is based on the worst credible outcome.

ae. <u>Situational Awareness (SA)</u>. SA refers to the degree of accuracy by which one's perception of the current environment mirrors reality.

af. <u>Task Loading</u>. The number of tasks to complete given a set period of time. Higher task loading increases the potential for error. Task loading can be reduced by either reducing the number of tasks or taking more time.

ag. <u>Threat</u>. See "Hazard." With respect to ORM, threat and hazard are considered synonymous.

ah. <u>Unacceptable Risk</u>. The risk when measured versus the benefit or value of the mission or task that cannot be tolerated and must be eliminated or controlled.

Enclosure (5)