

**NPS Reference Manual 50B Occupational
Safety and Health Program
Chapter 46 - Operational Leadership**

Approval for inclusion in Reference Manual 50B:

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Table of Contents

46.1 Introduction	4
46.2 Scope	4
46.3 References	4
46.4 Definitions	4
46.5 Responsibilities	5
46.5.1 Director, National Park Service	5
46.5.2 Associate Director, Visitor and Resource Protection.....	5
46.5.3 Washington Area Support Office (WASO) Office of Risk Management	5
46.5.4 Regional, Associate, and Assistant Directors.....	6
46.5.5 Regional Risk Manager/Regional OL Coordinator	6
46.5.6 Superintendent or Park/Office Manager	6
46.5.7 Park/Office OL Coordinator	6
46.5.8 Managers/Supervisors	7
46.5.9 Employees.....	7
46.6 Program Elements	7
46.6.1 Risk Management	7
46.6.2 Principles of Risk Management.....	8
46.6.2.1 Accept No Unnecessary Risk	8
46.6.2.2 Make Risk Decisions at the Appropriate Level	8
46.6.2.3 Accept Risk When Benefits Outweigh Costs	8
46.6.2.4 Integrate Risk Management into Planning and Operations at All Levels.....	8
46.6.3 Operational Risk Management Process.....	8
46.6.3.1 Step 1: Identify the Hazards	9
46.6.3.2 Step 2: Assign Risk.....	9
46.6.3.3 Step 3: Develop Controls and Make Risk Decisions	9
46.6.3.4 Step 4: Implement Controls	9
46.6.3.5 Step 5: Supervise and Evaluate	9
46.6.4 Implementation.....	10
46.6.5 Risk Management Tools.....	10
46.6.5.1 Severity, Probability, Exposure (SPE) Risk Assessment Matrix	10
46.6.5.2 General Assessment of Risk (GAR)	11
46.6.6 Risk Decision Authority	12
46.6.6.1 Evaluating Risk versus Gain.....	14

46.6.7 Operational Leadership Training	14
46.6.8 Documentation	14
Appendix 46.A: Cautions Related to Assessing Risk	15
Appendix 46.B: SPE Risk Assessment Instructions and Worksheet.....	16
Appendix 46.C: General Assessment of Risk Instructions and Worksheet	19
Using the GAR	19
Steps in the GAR.....	20

46.1 Introduction

Operational Leadership (OL) is a risk management system with a behavioral component that allows us to manage risk to levels that are As Low as Reasonably Practicable (ALRP), while also focusing on the cultural elements in the agency that allow a positive safety culture to thrive. OL provides a standardized process for identifying hazards and controlling risks across all functions, operations, and activities conducted across the NPS to meet organizational goals. OL assists employees in reducing risk and making decisions that weigh risks against benefits. OL must be fully integrated into planning, preparation, and execution at all levels. OL organizes and standardizes the Risk Management process that supports employees and decision makers at all levels in achieving mission success while meeting the following key NPS goals:

- Creating a safety culture where every employee is trained to recognize risk by identifying and managing hazards in all activities.
- Integrating Operational Leadership into all facets of activity planning, preparation, and execution ensuring decisions are based upon risk assessments of the activity.
- Enhancing operational effectiveness at all levels, while safeguarding health and welfare of employees and protecting property.
- Achieving proficiency in applying Operational Leadership so that it is an automatic response of the daily decision-making process.

46.2 Scope

The purpose of the NPS Operational Leadership chapter is to provide guidance on how to assess risk in the workplace using a standardized approach and tools, and to outline training, implementation, and documentation requirements.

46.3 References

This policy is written in accordance with 29 CFR Part 1960 and RM50B Section 3.2.

46.4 Definitions

This section includes a list of definitions relevant to Operational Leadership and Risk Management (Table 1).

Table 1. Definitions relevant to Operational Leadership and Risk Management.

Concept	Definition
Acceptable Risk	Risk exposure that has been deemed acceptable for an operation by an individual at the appropriate level of the organization.
As Low as Reasonably Practicable (ALRP)	As a best practice, the process of “reducing risk to as low as reasonably practicable” exercises judgement regarding the balance of risk and benefit when assessing work tasks. Risk shall be controlled down to a level below which the cost involved would be disproportionate to the benefit gained.
Control	A means to reduce or eliminate the effects of hazards. The terms Control and Mitigation are used interchangeably.

Concept	Definition
Exposure	A term used to assess the amount of time personnel or resources are in-a-position to be harmed by a hazard.
Hazard	Any real or potential condition that can cause injury, death to personnel, damage to, or loss of equipment, or operational degradation.
Initial Risk	The level of risk calculated prior to implementing mitigation measures.
Leader's Intent	A clear, concise statement (philosophy standard) about what employees must do to succeed in their assignments. In the context of Operational Leadership, setting Leader's Intent illustrates to employees what level of risk is acceptable (ORM Principle #2).
Probability	The likelihood that the hazard will result in an accident given the specific hazard being assessed.
Risk Assessment	The process of determining the likelihood of a specified negative event occurring.
Residual Risk	The level of risk calculated that remains after mitigation measures have been employed.
Safety, Health, and Wellness Risk Management	A continuous and systematic process for identifying, assessing, and mitigating risk associated with hazards.
Severity	The potential consequences if the hazard results in an accident.

46.5 Responsibilities

This section addresses the responsibilities and requirements for Operational Leadership for all levels of the organization.

46.5.1 Director, National Park Service

Responsible for:

- Providing leadership support and *Leader's Intent* to Parks, Regions, Programs, Centers, and Directorates to implement Operational Leadership.

46.5.2 Associate Director, Visitor and Resource Protection

Responsible for:

- Ensuring Parks, Regions, Programs, Centers, and Directorates have the necessary non-monetary resources (e.g., trained facilitators) to properly train staff and implement Operational Leadership.

46.5.3 Washington Area Support Office (WASO) Office of Risk Management

The WASO Office of Risk Management is responsible for:

- Maintaining the policy and, when necessary, revising the policy.
- Maintaining and approving curriculum and materials for use in Operational Leadership training.
- Approving and managing the list of all approved Operational Leadership Facilitators.

- Providing direction and support for all Operational Leadership Training requirements.

46.5.4 Regional, Associate, and Assistant Directors

The Regional Director is responsible for:

- Providing *Leader's Intent* to Superintendents/Managers at parks and offices within the region/directorate regarding Operational Leadership and risk decision-making authority.
- Ensuring there is sufficient support, resources, and training for Operational Leadership efforts at the region or directorate level.

46.5.5 Regional Risk Manager/Regional OL Coordinator

The Regional Risk Manager/Regional OL Coordinator is responsible for:

- Managing and supporting the Regional OL program as a core component of the Region's Occupational Safety and Health Program (OSH).
- Evaluating park OL program implementation and effectiveness during recurring OSH program evaluations.
- Working with the Office of Risk Management to host approved Operational Leadership Train-the-Trainer courses to maintain sufficient facilitator numbers in each region.
- Aiding the Office of Risk Management in maintaining the list of approved Operational Leadership Facilitators.
- Providing Operational Leadership guidance to parks/offices in their region.

46.5.6 Superintendent or Park/Office Manager

The Superintendent, site manager, is responsible for:

- Setting clear *Leader's Intent* regarding Operational Leadership and decision-making authority within their park/office.
- Empowering employees to speak up if they feel a situation is unsafe including setting the tone that employees are free to be vulnerable and open so they may take responsibility for mistakes without fear of retribution, knowing that we have a responsibility to learn from what has and has not gone well.
- Developing annual Operational Leadership goals.
- Ensuring there is sufficient support, resources, and training for Operational Leadership efforts at the unit level.
- Ensuring compliance with all requirements set forth under this policy, including:
 - Training requirements
 - Implementation
 - Documentation

46.5.7 Park/Office OL Coordinator

The Park/Office OL Coordinator is responsible for:

- Assisting with coordinating training courses as needed to meet the requirements outlined in this policy.
- Managing documentation outlined in this policy.

46.5.8 Managers/Supervisors

Managers and Supervisor are responsible for:

- Setting clear *Supervisor's Intent* regarding Operational Leadership and decision-making authority within their area of responsibility.
- Ensuring that employees receive training as outlined in this policy.
- Maintaining staff records of required training.
- Modeling Operational Leadership principles and practices.
- Empowering employees to stop, speak up, and reassess if they feel a situation is unsafe.

46.5.9 Employees

All NPS employees are responsible for:

- Attending the All-Employee Operational Leadership Course and subsequent refresher sessions either in-person or virtually. Becoming educated on Operational Leadership principles.
- Conducting unbiased OL assessments of routine and non-routine tasks prior to the commencement of an operation
- Making risk decisions at or below what the supervisory chain says is acceptable.
- Speaking up to share concerns, ideas, and ask questions particularly when the potential for a negative outcome is observed or is evident.

46.6 Program Elements

46.6.1 Risk Management

Safety, Health, and Wellness Risk Management begins with identifying what hazards may be encountered during an operation or activity. An employee's judgment balances operational success with the inherent risks, as determined by the presence of hazards associated with conducting the operation. Risk is determined by the probability of a hazard causing an accident and the severity of the accident should it occur.

Risk Management assists employees by:

- Utilizing risk assessment when analyzing and comparing courses of action.
- Enhancing decision-making skills based on a reasoned and repeatable process.
- Protecting personnel, systems, and support equipment by avoiding unnecessary risk.
- Providing continuous improvement processes in the planning, preparation, and execution phases of operations.
- Identifying feasible and effective control measures where specific standards do not exist.
- Reviewing, communicating, and acknowledging the risk associated with the mission to all involved.

Risk Management does not:

- Replace rational and sound decision-making.
- Inhibit flexibility, initiative, or accountability.

- Remove risk altogether.
- Sanction or justify violating any law or OSHA standard, or override or supersede compliance with agency policy.
- Remove the necessity for training, techniques, and procedures.

46.6.2 Principles of Risk Management

The 4 principles of Risk Management provide a framework for implementing the Operational Risk Management Process, they include:

1. Accept no unnecessary risk
2. Make risk decisions at the appropriate level
3. Accept risk when benefits outweigh costs
4. Integrate risk management into all phases of planning

46.6.2.1 Accept No Unnecessary Risk

Unnecessary risks do not contribute to operational success and jeopardize personnel or property. NPS must accomplish operations while exposing personnel and resources to risks that are As Low as Reasonably Practicable (ALRP). Accept only those risks that are necessary to accomplish the operation or activity.

46.6.2.2 Make Risk Decisions at the Appropriate Level

Making risk decisions at the appropriate level establishes clear accountability. Personnel must be aware of how much risk they can accept and when to elevate risk decisions to a higher level. Those accountable for the success or failure of the operation or activity must be fully engaged in the risk decision process. It is important that NPS employees understand that a potentially high risk level does not automatically negate an operation from commencing, it means the acceptance of the level of residual risk must be accepted by the appropriate level of leadership. There may be times when the benefit of completing an operation outweighs the high level of residual risk. This should be the exception and justifiable.

46.6.2.3 Accept Risk When Benefits Outweigh Costs

The process of weighing risks against opportunities and benefits helps to maximize effective decision-making capabilities. Personnel with prior knowledge and experience of the operation or task must be engaged whenever possible in making risk decisions to ensure a proper balance is achieved. Ultimately, the appropriate decision authority must determine the balance (i.e., is the risk worth the gain?). High-risk endeavors may be undertaken when decision makers clearly acknowledge the sum of the benefits exceeds the sum of the costs.

46.6.2.4 Integrate Risk Management into Planning and Operations at All Levels

Integrate Risk Management into planning in all operations at all levels of the organization (e.g., individual, workgroup, park/office, regions, agency-wide discussions) as early as possible. This provides the greatest opportunity to make well informed risk decisions and implement effective risk controls. To effectivity apply OL principles, personnel must dedicate time and resources to integrate OL principles into planning, operational processes, and day-to-day activities.

46.6.3 Operational Risk Management Process

The Operational Risk Management (ORM) Process consists of five steps that are applied continuously to make informed decisions regarding risk (Figure 1).



Figure 1. The five-step Operational Risk Management Process.

46.6.3.1 Step 1: Identify the Hazards

Apply appropriate hazard identification techniques to identify hazards associated with the operation or activity.

46.6.3.2 Step 2: Assign Risk

Determine the probability and severity of consequences that may result from exposure to hazards. Once a hazard has been evaluated based on probability and severity factors, a risk level is assigned (initial risk).

46.6.3.3 Step 3: Develop Controls and Make Risk Decisions

Evaluate specific strategies and controls that reduce or eliminate hazards. Risk mitigation decisions must be made at the appropriate level for the identified risk. The higher the risk, the higher the decision-level needs to be to ensure that an appropriate analysis of overall costs to benefits has been carefully weighed. It is critical that leadership ensures that the levels of decision authority are aligned appropriately with operational requirements and experience levels of the personnel conducting operations or activities under their responsibility. Risk decisions should never be delegated to a lower level for convenience or when the situation dictates senior-level involvement; exceptions may be considered in time critical situations where delays might endanger lives, resources, or equipment. The process of developing and applying controls and reassessing continues until risk that is ALRP is achieved (residual risk).

46.6.3.4 Step 4: Implement Controls

After selecting control measures, develop and carry out an implementation strategy. The strategy must identify the who, what, when, where, and cost(s) associated with the control measure. Emphasize accountability across all levels of leadership and personnel associated with the action so that there is clear understanding of the residual risks and responsibilities.

46.6.3.5 Step 5: Supervise and Evaluate

ORM is a process that continues throughout the life cycle of the operation or activity. Supervision must ensure personnel understand how, when, and where controls are

implemented and determines the effectiveness of risk controls throughout the operation or assignment. Leaders and supervisors at every level must fulfill their respective roles in ensuring controls are sustained over time. Once controls are in place, the process must be periodically evaluated and reviewed to ensure controls remain effective over time.

46.6.4 Implementation

Operational Leadership provides the structure and tools to aid employees in making informed risk decisions through a process of continuous improvement. The key to success is taking OL from training to implementation in our daily work. We will know we are implementing OL when:

- Employees are empowered to speak up and share concerns, ideas, and questions.
- Employees at all levels are free to be vulnerable and open, and take responsibility for mistakes without fear of retribution, knowing that we have a responsibility to learn from what has and has not gone well.
- Every employee is trained to recognize risk by identifying and managing hazards in all activities.
- OL is an automatic response of the daily decision-making process.
- Best practices from each of the critical components of OL (i.e., communication, effective leadership, error and accident causation, mission analysis, stress and performance, situational awareness, decision making) are discussed and shared regularly among staff. Each of these components are covered in the All-Employee OL Course.

46.6.5 Risk Management Tools

Risk management tools are used to assign risk levels to the hazards identified in Step 1 of the ORM process. When working through the ORM process utilizing the risk management tools outlined below, key team members and stakeholders for the project, activity, or operation should be involved in the assessment. The tools described in this section are not to be used in isolation, but rather are applied during step 2 of the ORM process.

46.6.5.1 Severity, Probability, Exposure (SPE) Risk Assessment Matrix

A SPE Risk Assessment evaluates risk based on three characteristics of a hazard: severity, probability, and exposure. Figure 2 shows the SPE Risk Assessment model. Table 2 shows the risk levels and associated actions for each risk level. This version has been accepted as a standard for NPS for assessing specific hazards. See Appendix B for instructions on completing a SPE Risk Assessment.

SPE RISK ASSESSMENT MATRIX		PROBABILITY					
		Likelihood of Accident if Hazard is Present (Exposure: probability increases if number of personnel or duration of exposure increases)					
		Almost Certain (Likely to occur many times)	Likely (Likely to occur sometimes)	Possible (Possible to occur, but not probable)	Unlikely (Very unlikely to occur)	Rare (Almost inconceivable that the event will occur)	
SEVERITY	Consequence if Accident Occurs	Catastrophic (Death, loss of critical equipment and work ceases)	Extremely High	Extremely High	Extremely High	High	Medium
	Critical (Long-term hospitalization and permanent disability, loss of critical equipment and work slows)	Extremely High	Extremely High	High	Medium	Medium	
	Moderate (Medical treatment from a doctor and loss of work time, equipment damage impairs mission efficiency)	High	High	Medium	Low	Low	
	Negligible (Little consequence in terms of injury, no significant loss of work, equipment damage does not affect work efficiency)	Medium	Medium	Low	Low	Low	

Figure 2. A conceptual image of the SPE Risk Assessment Matrix. For a 508 Compliant version see: <https://doimsp.sharepoint.com/sites/nps-occupationsafetyandhealth/SitePages/OL-Refresher-Tailgate-Sessions.aspx>.

Table 2. Risk Level and Associated Actions.

Risk Level	Action Required
Extremely High	Discontinue, Stop, Higher Level Discussion
High	Immediate Mitigation Needed, Higher Level Discussion
Medium	Mitigation Recommended, First-line Supervisor Approval
Low	Possible Acceptance, Proceed

46.6.5.2 General Assessment of Risk (GAR)

The GAR is a tool to evaluate common human factors, their associated hazards, and risk. There are two primary ways in which the GAR may be utilized: during the operational planning process or as an organizer to check operational readiness just prior to commencing or during an activity or operation. Table 3 and 4 shows the GAR Model and scoring matrix. See Appendix C for instructions on completing a GAR.

Table 3. General Assessment of Risk, Operational Risk Management Planning Tool (see Table 2 for risk level and associated actions). Each individual must score each factor 1-10, and see Table 4 for the scoring matrix and associated risk level.

Human Factors	Definition
1. Supervision	Qualified, effective, accessible? Clear chain of command? Appropriate span of control ratio?
2. Planning	Information available & clear; adequate time to plan? SOPs & JHAs? Team briefed & input solicited?
3. Team Selection	Level of training and experience? Cohesiveness & attitude? Prone to skill error; complacency error?
4. Team Fitness	Physical & mental state of the team? Consider rest, fatigue, morale, outside distractions.
5. Communication	Communications equipment, infrastructure & dispatch? Interpersonal communications of team?
6. Contingency Resources	MOUs and pre-plans in place? Shared communication plan? Response time?
7. Environment	Time of day, weather, topography, approach & access, fuel load, urban challenges, chemicals?
8. Event Complexity	Exposure time, environment stable? Potential for taxing staff? Multiple tasks? Sense of urgency?

Table 4. General Assessment of Risk, Operational Risk Management Planning Tool scoring matrix. Score the factors in Table 3 from 1-10 then add each score together to get a total score. Once a total score is determined, identify the associated risk level. If any category is rated >5 by an individual, the category must receive specific mitigation.

Score	Risk Level
71-80	Extremely High
61-70	High
36-60	Medium
8-35	Low

46.6.6 Risk Decision Authority

Risk management decisions are based on weighing the residual risk against the gain in an operation or activity. As risk increases, risk decisions must be made at higher levels within the organization. The risk decision authority chart (Table 5) defines who shall approve operations at each risk level and ensures all personnel understand the approval process. Maintaining integrity during the ORM process ensures accountability in the decision-making process.

Table 5. Risk Decision Authority Chart showing risk versus gain.

Risk	Gain		
	High	Medium	Low
Low	Accept the mission, monitor risk factors, and re-evaluate if conditions or mission/activities change.	Accept the mission, monitor risk factors, and re-evaluate if conditions or mission/activities change.	Accept the mission, monitor risk factors, and re-evaluate if conditions or mission/activities change.
Medium	Accept the mission only with approval from a first-line supervisor. Monitor risk factors and re-evaluate if conditions or the mission change.	Accept the mission only with approval from a first-line supervisor. Monitor risk factors and re-evaluate if conditions or the mission change.	Accept the mission only with the approval from Division Chief or Superintendent (or equivalent) level. Communicate risk vs. gain to chain-of-command. Implement controls and continuously evaluate conditions and mission for change.
High	Accept the mission only with the approval from Division Chief or Superintendent (or equivalent) level. Communicate risk vs. gain to chain-of-command. Implement controls and continuously evaluate conditions and mission for change.	Accept the mission only with the approval from Division Chief or Superintendent (or equivalent) level. Communicate risk vs. gain to chain-of-command. Implement controls and continuously evaluate conditions and mission for change.	DO NOT accept the mission. Communicate to chain-of-command. Approval must come from Superintendent (or equivalent) level. Wait until risk factors change, or controls are available to warrant risk exposure.
Extremely High	Accept the mission only with the approval from Division Chief or Superintendent (or equivalent) level. Communicate risk vs. gain to chain-of-command. Implement controls and continuously evaluate conditions and mission for change.	DO NOT accept the mission. Communicate to chain-of-command. Approval must come from Superintendent (or equivalent) level. Wait until risk factors change, or controls are available to warrant risk exposure.	DO NOT accept the mission. Communicate to chain-of-command. Approval must come from Superintendent (or equivalent) level. Wait until risk factors change, or controls are available to warrant risk exposure.

46.6.6.1 Evaluating Risk versus Gain

Level of Risk – As previously stated, the initial level of risk in an operation is evaluated using the SPE or GAR models in step 2 of the ORM process. Residual risk is identified in step 3 of the ORM process.

Level of Gain - Levels of gain are defined below. Risk versus gain is considered in step 3 of the ORM process.

- Low Gain - Situation with unclear benefits or a low probability for providing concrete results. Examples: optional duties during inclement weather, non-urgent logistics mission, body recovery operation during hazardous conditions when known loss of life of victim has occurred.
- Medium Gain - Situation that provides immediate and real benefits. Examples: saving property, addressing urgent threats to park resources, supporting critical operations as identified by your local leader's intent.
- High Gain - Situation that provides immediate and real benefits that if ignored could result in loss of life or serious injury. Examples: Search and Rescue (SAR) and MEDEVACs, Extraction of personnel in compromised position.

46.6.7 Operational Leadership Training

There are 5 training elements for Risk Management in the NPS.

1. All-Employee Operational Leadership (AEOL)
 - a. This course is required for all NPS employees within 6 months of permanent hire or by no later than the second season of employment if the employee is a temporary hire. This course may be completed in the classroom or virtually.
2. Operational Leadership for Supervisors (OLS)
 - a. This course is required by all NPS supervisors within 6 months of becoming a supervisory employee as identified in the position description.
3. Operational Leadership Refresher Sessions
 - a. This course is required by all NPS employees on a 2-year renewal schedule beginning 2 years after the initial All-Employee OL course.
4. Operational Leadership Facilitator Train-the-Trainer
 - a. This course is required by all employees who will provide the All-Employee or Supervisor OL Courses. This course is conducted in the classroom only
5. Tailgate Sessions
 - a. As a best practice, these sessions are conducted periodically on a specific element of Operational Leadership.

46.6.8 Documentation

Documentation of risk assessments is a critical step in the ORM process. Documentation introduces accountability into the process and provides the structure for continuous improvement. A documented risk assessment must be completed for tasks that are being performed for the first time, tasks that are rarely performed, or routine tasks where the conditions have changed (i.e., novel circumstance). See Appendices B and C for further instructions and documentation guidance.

Appendix 46.A: Cautions Related to Assessing Risk

Identifying hazards and assessing risk are foundational to the risk management process. Below are some concepts to keep in mind to maintain integrity of the process:

1. A workgroup or individual must adhere to the thresholds at which decisions need to be made up the chain-of-command.
 - a. Solution: Ensure personnel are well informed of their risk decision-making authority.
2. It can be difficult to assign a numerical/ranked value to human behavior.
 - a. Keep in mind: Numbers/rankings may oversimplify real life situations.
3. Numbers/rankings may take the place of reasoned judgment.
 - a. Keep in mind: Don't rely solely on numbers.
 - b. Solution: Engage in thoughtful conversation.
4. The ORM process is not designed to wholly stop an operation. Operations where immediate threats to employee safety and health are identified, should be halted. Employees should immediately raise concerns to the appropriate level in the chain-of-command to re-assess and seek opportunities to reduce risk to ALRP levels. This may include:
 - a. Delaying an operation until a later time (e.g., when poor weather conditions are present, when mitigations need to be developed and implemented)
 - b. Having further discussion about risk vs gain
 - c. Transferring the risk to another entity that specializes in the task
 - d. Elevating the decision to still higher levels in the organization to ensure risk decisions are accountable
 - e. And, in some cases, cessation of the operation.
5. Risk variables can be misrepresented, whether conscious or not, including:
 - a. Over-optimism – not being totally honest or not looking for root causes.
 - b. Misrepresentation – individual perspective or experience distorts the data.
 - c. Alarmism – worst-case estimates regardless of their probability.
 - d. Indiscrimination – all information is given equal weight.
 - e. Inaccuracy – inaccurate, incomplete, or misunderstood data are used.

Appendix 46.B: SPE Risk Assessment Instructions and Worksheet

The purpose of assessing hazards is to determine the risk level that the hazards pose in order to determine the need for mitigation and/or whether the operation or activity should continue. While there are numerous approaches to assess hazards, the SPE is arguably the most simplistic and often used approach. To assess risk, one needs to know three characteristics of the hazard:

Severity – if the hazard results in an accident, what are the potential consequences: for example, injury, property, loss.

Probability – what is the likelihood that the hazard will result in an accident; *rare, unlikely, possible, likely, almost certain*.

Exposure – how often and/or how many people are in contact with the hazard. The SPE consolidates the exposure characteristic into the probability evaluation. In other words, if the number of people exposed to the hazard or the frequency of contact with the hazard increases, the probability of the hazard resulting in an accident also increases. While not mathematically precise, this consolidation is justified since the intent of the SPE is to provide a gross estimate of risk exposure. If risk exposure is determined to be extreme, more precise tools could be used to further assess the hazard.

Figure B-1 shows the SPE model (this version has been accepted as a standard for NPS). Columns represent probability information and rows represent severity information. The probability and severity scale levels contain some basic descriptors of the attributes to consider when making your selection. Since not all possible permutations can be represented, the user may need to generalize the category information for the event under analysis. Specifically:

- Columns designate the probability of an accident associated with a given hazard ranging from *almost certain* to *rare*. Probability may be determined through experienced-based estimates or derived from research, analysis, and evaluation of historical data from similar missions and systems. Supporting rationale for assigning a probability should be documented for future reference.
- Rows designate the severity of a possible consequence ranging from *catastrophic* to *negligible*. The severity of a consequence is expressed in terms of its potential impact on the mission, exposed personnel, and exposed equipment. Severity categories are defined to provide a qualitative measure of the worst credible outcome if an accident occurs.

SPE RISK ASSESSMENT MATRIX		PROBABILITY					
		Likelihood of Accident if Hazard is Present (Exposure: probability increases if number of personnel or duration of exposure increases)					
		Almost Certain (Likely to occur many times)	Likely (Likely to occur sometimes)	Possible (Possible to occur, but not probable)	Unlikely (Very unlikely to occur)	Rare (Almost inconceivable that the event will occur)	
SEVERITY	Consequence if Accident Occurs	Catastrophic (Death, loss of critical equipment and work ceases)	Extremely High	Extremely High	Extremely High	High	Medium
	Critical (Long-term hospitalization and permanent disability, loss of critical equipment and work slows)	Extremely High	Extremely High	High	Medium	Medium	
	Moderate (Medical treatment from a doctor and loss of work time, equipment damage impairs mission efficiency)	High	High	Medium	Low	Low	
	Negligible (Little consequence in terms of injury, no significant loss of work, equipment damage does not affect work efficiency)	Medium	Medium	Low	Low	Low	

Figure B-1. A conceptual image of the SPE Risk Assessment Matrix. For a 508 Compliant version see XXX (<https://doimssp.sharepoint.com/sites/nps-occupationsafetyandhealth/SitePages/OL-Refresher-Tailgate-Sessions.aspx>).

Table B-1. Risk Level and Associated Actions.


Risk Level	Action Required
Extremely High	Discontinue, Stop, Higher Level Discussion
High	Immediate Mitigation Needed, Higher Level Discussion
Medium	Mitigation Recommended, First-line Supervisor Approval
Low	Possible Acceptance, Proceed

For any given hazard, select the appropriate severity level followed by the appropriate probability. Only a single hazard is assessed at a time.

The risk values in Table B-1 quantify the risk level associated with the hazard’s probability and severity ratings. Risk can fall into one of four levels. Each of the four levels requires specific actions to mitigate. The risk levels help to prioritize hazards such that those that pose the greatest risk can be addressed first. Additionally, quantifying risk enables personnel to reconsider the impact of their mitigation efforts as they develop controls. The final decision to proceed or not, must be made at the appropriate level within the organization (Step 4 of the ORM process). See Table 5, Risk Decision Authority for additional guidance.

NPS SPE RISK ASSESSMENT WORKSHEET					
The 5-step Operational Risk Management process is a continuous cycle with feedback loops that help identify hazards and risk controls.					
PRINCIPAL PURPOSE: Conduct a formal risk assessment and ensure the assessment is properly documented for future evaluation and reference.					
1. EVENT/MISSION/TASK OF RISK ASSESSMENT:					
A. EVENT DESCRIPTION					B. EVENT DATE
2. PREPARED BY:					
A. LAST NAME, FIRST		B.	C. TITLE/POSITION		
D. WORK EMAIL		E. PHONE	F. PARK UNIT / OFFICE		
G. LOCATION		H. OTHER ASSESSMENT TEAM MEMBERS			

SPE RISK ASSESSMENT MATRIX		PROBABILITY				
		Likelihood of Accident if Hazard is Present <small>(Maximum probability/increase of number of personnel in location of exposure/increase)</small>				
		Almost Certain <small>(Likely to occur every time)</small>	Likely <small>(Likely to occur sometimes)</small>	Possible <small>(Possible to occur, but not probable)</small>	Unlikely <small>(Once unlikely to occur)</small>	Fairly <small>(Often unavoidable but the event will occur)</small>
SEVERITY	Catastrophic <small>(Break, loss of case, or Mission-Critical)</small>	Extremely High	Extremely High	Extremely High	High	Medium
	Critical <small>(Permanent Disability, Major Damage)</small>	Extremely High	Extremely High	High	Medium	Medium
	Moderate <small>(Non-Permanent Disability, Injury or Damage)</small>	High	High	Medium	Low	Low
	Negligible <small>(Minor Injury or Damage)</small>	Medium	Medium	Low	Low	Low



3. SUB-TASK/SUB-STEP AND RISK ASSESSMENT						
#	A. SUB-TASK/SUB-STEP	B. HAZARD	C. INITIAL RISK LEVEL	D. CONTROL	E. HOW TO IMPLEMENT WHO WILL IMPLEMENT	F. RESIDUAL RISK LEVEL
1						
2						

G. COURSE OF ACTION	
H. OVERALL RISK LEVEL AFTER CONTROLS ARE IMPLEMENTED	I. RISK DECISION AUTHORITY BASED ON RISK LEVEL

4. ADDITIONAL COMMENTS		
5. RISK DECISION AUTHORITY (Risk decision must be made at the appropriate level. See risk decision authority chart).		
A. APPROVAL/DISAPPROVAL OF EVENT/MISSION	B. APPROVER LAST NAME, FIRST	C. GRADE
D. ADDITIONAL INFORMATION/APPROVER COMMENTS		
E. TITLE/POSITION	F. APPROVER SIGNATURE	

Figure B-2. Example of the SPE Risk Assessment Worksheet. Go to [OL Tools \(sharepoint.com\)](https://www.sharepoint.com) to download a fillable form.

Appendix 46.C: General Assessment of Risk Instructions and Worksheet

Using the GAR

There are two primary ways in which the GAR may be utilized: during the operational planning process or as an organizer to check operational readiness just prior to commencing or during an activity or project.

A selection of key team members and stakeholders for the planned project, operation, or activity, work through the questions of the GAR individually. The leader of the operation then conducts a conversation in which each risk factor identified in the GAR is discussed, those who participated without influence of other team members now share their rating. If the rating is similar across the group, then the leader moves on to the next risk factor. If there are discrepancies, the leader will facilitate a conversation to address the differences. This is repeated for each risk factor in the GAR. The benefit of conducting a GAR is the various perceptions of the individual team members are brought forward in a non-confrontational way. It allows for discussion regarding areas where team members have concern and provides the opportunity to address those concerns before conducting the mission or activity.

Table C-1. General Assessment of Risk, Operational Risk Management Planning Tool (see Table C-2 for risk level and associated actions). Each individual must score each factor 1-10, and see Table 4 for the scoring matrix and associated risk level.

Human Factors	Definition
1. Supervision	Qualified, effective, accessible? Clear chain of command? Appropriate span of control ratio?
2. Planning	Information available & clear; adequate time to plan? SOPs & JHAs? Team briefed & input solicited?
3. Team Selection	Level of training and experience? Cohesiveness & attitude? Prone to skill error; complacency error?
4. Team Fitness	Physical & mental state of the team? Consider rest, fatigue, morale, outside distractions.
5. Communication	Communications equipment, infrastructure & dispatch? Interpersonal communications of team?
6. Contingency Resources	MOUs and pre-plans in place? Shared communication plan? Response time?
7. Environment	Time of day, weather, topography, approach & access, fuel load, urban challenges, chemicals?
8. Event Complexity	Exposure time, environment stable? Potential for taxing staff? Multiple tasks? Sense of urgency?

C-2. General Assessment of Risk, Operational Risk Management Planning Tool scoring matrix. Score the factors in Table C-1 from 1-10. Once a total score is determined, identify the associated risk level. If any category rates >5 by an individual, the category must receive specific mitigation.

Score	Risk Level
71-80	Extremely High
61-70	High
36-60	Medium
8-35	Low

Steps in the GAR

- Define the task, operation, job, or project and state the desired outcome.
- Identify the hazards within each of the eight risk factors (Step 1 of the ORM process).
- Individually assign a risk score of 1 through 10 (1 being low risk, 10 being high risk), without discussing the scores with team members.
- Add the scores for each of the risk factors to calculate a total risk score (Step 2 of the ORM process).
- After calculating an individual risk score, move to the team discussion for each of the eight risk factors. Thoroughly consider all viewpoints during the team discussion. Assign a number for each risk factor that the team can all agree on. Outliers are acceptable and should be documented with individual score and reasoning. Any individual score that is 5 or higher must be evaluated by the team to consider specific strategies and controls that reduce or eliminate the hazard identified in that risk factor (Step 3 of the ORM process). A SPE shall be conducted on individual hazards identified during the GAR process.
- The GAR process is designed to identify hazards and control options that reduce risk to As Low as Reasonably Practical (ALRP). In instances where higher risk is identified through the GAR process, the risk decision must be elevated so that it is made at the appropriate level of the organization.
- The final decision to proceed or not, must be made at the appropriate level within the organization (Step 4 of the ORM process). See Table 5, Risk Decision Authority for additional guidance.

Go to [OL Tools \(sharepoint.com\)](https://sharepoint.com) to download a fillable form to document the use of the 5-step ORM process using the General Assessment of Risk Planning Tool.