
Unit 7: Risk Management and Safety

STUDENT GUIDE

Objectives

By the end of this unit, students will be able to:

- Describe the risk management and safety responsibilities of the Division/Group Supervisor
- Define risk management and risk assessment
- Describe risk management processes
- Describe concepts of hazard mitigation

Methodology

This unit uses lecture, exercises, and discussion.

Content from Unit 7 will be tested during the Final Exam. Instructors will evaluate students' initial understanding of the unit through the facilitation of Exercises 6 and 7.

The purpose of Exercise 6 is to allow trainees to practice identifying hazards and risks. Trainees (in groups) will be presented with five (5) different incident scenarios, asked to identify potential hazards and risks, and report findings to the class for discussion.

The purpose of Exercise 7 is to allow trainees to perform a hazard and risk assessment that identifies potential hazards and risks, and then determine risk controls that would mitigate the risks identified. Trainees will examine the Central City (CC) Train Derailment IAP for risks and hazards. Trainees will then determine ways to mitigate (or eliminate) the risks identified. One person from each group will then present the group's answers to the class for discussion.

Time Plan

A suggested time plan for this unit is shown below. More or less time may be required, based on the experience level of the group.

Topic	Time
Lesson	1 hour, 15 minutes
Exercise 6	30 minutes
Exercise 7	45 minutes
Total Time	2 hours, 30 minutes

**Key Points**

Scope Statement

Through this unit, students will gain an understanding of the how to effectively manage risks as a Division/Group Supervisor. Students will learn the terms related to risk management, the steps in the Risk Management Model, pre-emergency risk management techniques, and how the Division/Group Supervisor can demonstrate a personal commitment to safety.

Unit Terminal Objective

Describe the risk management and safety responsibilities of the Division/Group Supervisor.

**Key Points**

Unit Terminal Objective

Describe the risk management and safety responsibilities of the Division/Group Supervisor.

Unit Enabling Objectives

- Define risk management and risk assessment
- Describe the risk management processes
- Describe concepts of hazard mitigation



Key Points

You are the person primarily responsible for your own safety, as well as the safety of those you supervise. This is one of the fundamental tenets of ICS.

As a Division/Group Supervisor, your primary responsibility is to ensure that everyone who showed up to work leaves in the same shape they arrived in. To be effective, the Division/Group Supervisor must have a strong personal commitment to safety and hazard mitigation. Attention to the established safety guidelines such as fire orders; watch-out situations; lookouts, communications, escape routes, and safety zones (LCES); common denominators; and industry standards is essential.

You have the responsibility and the authority to implement a risk management process to ensure the safety of the resources assigned to you.

Topic Risk Management Responsibility

Risk Management Responsibility

- **The Division/Group Supervisor directs Division or Group Resources to carry out the tactical assignments**
- **A critical part of this direction includes establishing a risk management process**

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Visual 7-4

Key Points

As a Division/Group Supervisor, you coordinate the activities of a diverse set of emergency resources, each having their own leader.

You translate the strategy outlined in the IAP into tactical assignments for each resource assigned to your Division or Group. Part of this translation of strategy into tactics means a risk management process must be applied to the decision to commit any resource to an assignment in the hazardous environment.

Hazards are addressed in a general sense in the ICS Form 215A and the IAP. But a risk management process cannot truly be planned and implemented until you see the work site and associated emergency environment.

Topic Risk Management Terms

Risk Management Terms

Hazard

- Things within the environment that can cause harm to people or equipment

Risk

- The chances that people take in relationship to the hazard



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Visual 7-5

Key Points

Topic Risk Management Terms (cont.)

Risk Management Terms (cont.)

Distinctions between hazards and risks:

- A hazard does not necessarily put you at risk
- Everything we do exposes us to hazards
- It is how we deal with the hazards that determine the risk

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Visual 7-6

Key Points

Distinctions between **hazards** and **risks**:

- A hazard does not necessarily put you at risk
- Everything we do exposes us to hazards
- It is how we deal with the hazards that determine the risk

Topic Risk Management Terms (cont.)**Risk Management Terms (cont.)**

- **Hazard Assessment:**
 - Identification and evaluation of hazards
- **Risk Assessment:**
 - Identification and evaluation of risks



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Visual 7-7

Key Points

- **Hazard assessment:** Identification and evaluation of hazards
 - Identify hazards
 - Evaluate severity
 - Exercise judgment
- **Risk assessment:** Identification and evaluation of risks
 - When a hazard or risk is identified, measures must be implemented to reduce or eliminate the hazard or risk.

Topic Risk Management Terms (cont.)

Risk Management Terms (cont.)

Risk Management:
The process of planning, organizing, directing, and controlling the resources and activities of an organization in order to minimize detrimental effects on that organization.

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Key Points

Risk Management: The process of planning, organizing, directing, and controlling the resources and activities of an organization in order to minimize detrimental effects on that organization.

The primary focus of risk management is the safety and health of the responders.

Topic Risk Management Terms (cont.)

Risk Management Terms (cont.)

- **Risk Mitigation:**
 - Specific measures established to reduce or eliminate risks
- **Decision Point:**
 - Go/No-Go decision based on whether risk mitigations established can adequately reduce or eliminate the risk identified

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Key Points

- **Risk Mitigation:** Specific measures established to reduce or eliminate risks
 - Part of risk management process
- **Decision Point:** Go/No-Go decision based on whether risk mitigations established can adequately reduce or eliminate the risk identified
 - Gather information
 - Assess for hazards
 - Determine risk controls
 - Make a decision

Topic Risk Management Model

Risk Management Model

1. Risk Identification
2. Risk Evaluation
3. Risk Prioritization
4. Risk Control Measures
5. Risk Monitoring



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Visual 7-10

Key Points

The classic risk management model presents a systematic approach for identifying and planning for risk control. This methodical process for making decisions can be used not only for the non-emergency risks that all organizations must address, but also for the risks associated with the response to and mitigation of an emergency incident. The factors at each incident always will vary, but—as we have known for years—continual training in all aspects of the approach will yield the best, most consistent results possible.

The model has five primary components, or steps, that serve as a foundation for this process. Each one depends upon information generated by the previous step, so it is important to evaluate each one before moving on to the next. These five steps are discussed in detail in the following sections:

1. Risk identification
2. Risk evaluation
3. Risk prioritization
4. Risk control techniques
5. Risk monitoring

For each step in the process, it is important to record performance criteria, suggestions, and recommendations. This data will provide the elements that formulate a written risk management plan. The number of pages in the plan has no impact on effectiveness.

Once created, the plan should be periodically (at least annually) updated. Consider it a dynamic process, not a static event with a single written record. Keep the plan current based on conditions, circumstances, and experience.

Risk Identification

- Identify risks in your assignment
- Identify risks in overall incident



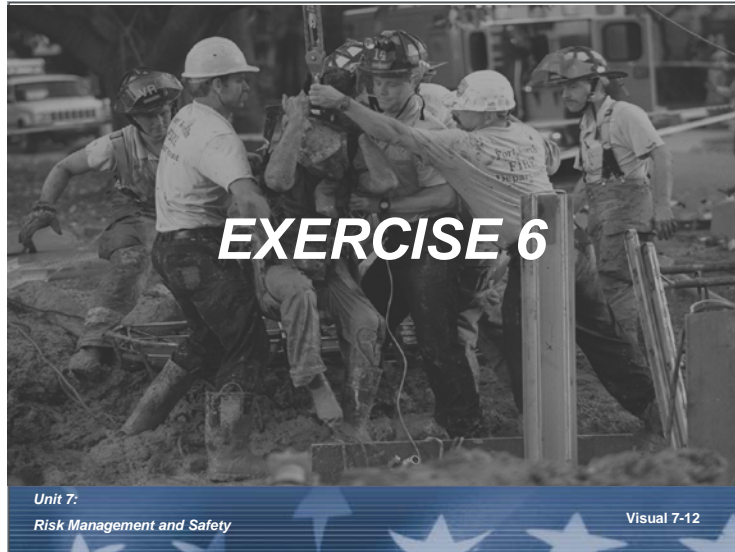
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Visual 7-11

Key Points

Step 1 of Risk Management Model: Risk Identification

- What risks are inherent to the types of incidents to which you respond?
- Remember: A risk is a chance that people take in relationship to a hazard.




Key Points

Follow directions from the instructor on how to complete this exercise.

Risk Evaluation

Determine which risks will be controlled first.



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Visual 7-13

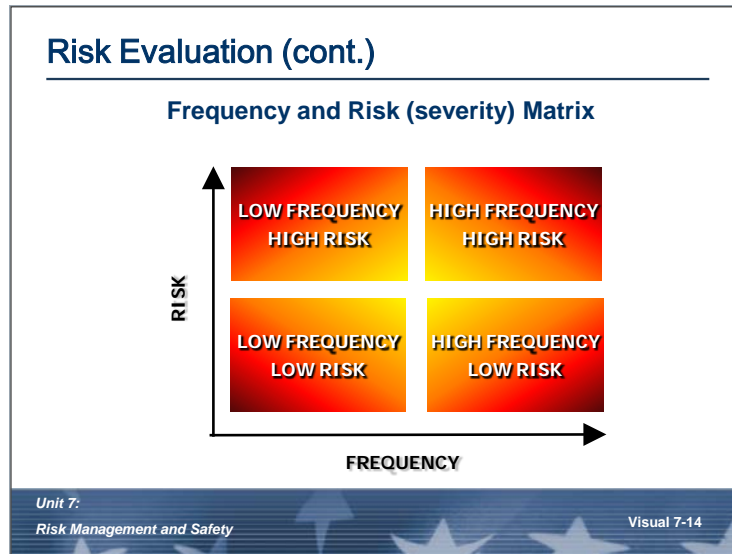
Key Points

Once the risks are identified, they can be evaluated from the standpoint of both frequency and severity. Frequency addresses the likelihood of occurrence. Typically, if a particular type of incident (like back injuries) has occurred repeatedly, these incidents will continue to occur until effective control measures are implemented.

Severity addresses the degree of seriousness of the incident. This can be measured in a variety of ways such as time away from work, cost of damage, cost of and time for repair or replacement, disruption of service, or legal costs. Using the information gathered in the identification step, the risks can be classified based on severity.

Step 2 of Risk Management Model: Risk Evaluation

Determine which risks will be controlled first.



Key Points

Step 2 of Risk Management Model: Risk Evaluation (cont.)

- Frequency and Risk (severity) Matrix:
 - Frequency: How often does the risk occur?
 - Risk (severity): How severe are the consequences if things go wrong?
- Matrix may help in classifying problems.

Risk Prioritization

- Determine which risks will be controlled first
- There is no correct order
- Matrix may help to classify problems



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Visual 7-15

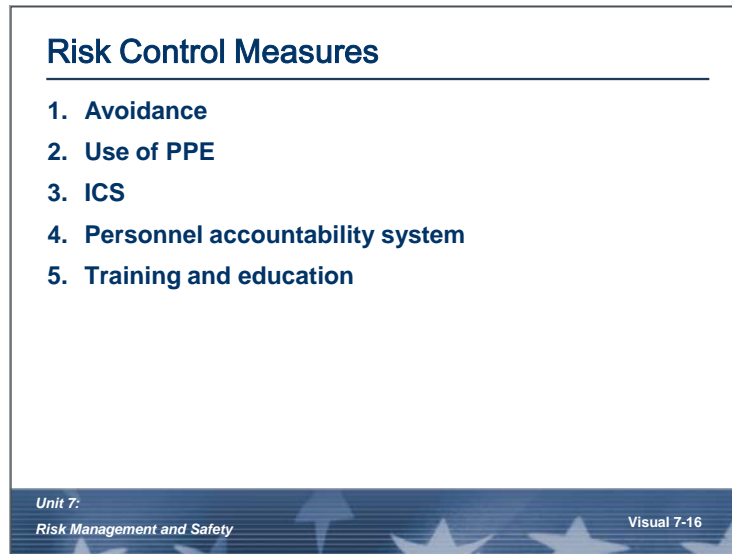
Key Points

Taken in combination, the results of the frequency and severity determinations will help to establish priorities for determining action. Any risk that has a low probability of occurrence, but will have serious consequences (high risk or severity), deserves immediate action and would be considered a high priority item. Non-serious incidents with a low likelihood of occurrence are a lower priority and can be placed near the bottom of the “action required” list.

Step 3 of Risk Management Model: Risk Prioritization

- Determine which risks will be controlled first:
 - Low-frequency and high-risk items deserve immediate action and should be considered high-priority items
 - Prioritization can require difficult decisions
- There is no absolutely correct order
- Matrix may help to classify problems

Topic Risk Control Measures

**Key Points**

Each of these risk control measures will be discussed in upcoming slides so only briefly introduce them here.


At this point in the process, risks have been identified and evaluated, so it is time to find solutions. The most common method used for the management of risk is the adoption of effective **risk control measures**. While control measures will not eliminate the risk, they can reduce the likelihood of occurrence or mitigate the severity. Safety programs, ongoing training and education programs, and well-defined standard operating procedures (SOPs) are all effective control measures.

Step 4 of Risk Management Model: Risk Control Measures

1. Avoidance
2. Use of PPE
3. Incident Command System (ICS)
4. Personnel accountability system
5. Training and education

Risk Control Measures (cont.)

1. Avoidance
2. Use of PPE



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Visual 7-17

Key Points

Risk Avoidance

In any situation, the best choice for Risk Control Measures is risk avoidance. Simply put, this means avoid the activity that creates the risk. In an emergency services organization, this frequently is impractical. Lifting a stretcher presents a serious back injury risk, but you cannot avoid this risk and still provide effective service.

An example of where avoidance has been very practical is the widespread, hopefully universal, use of sharps containers. The risks associated with recapping needles are well documented; therefore, recapping is no longer an accepted practice. This risky behavior can be avoided through the proper use of a sharps container.

Personal Protective Clothing and Equipment (PPE)

Before participating in any emergency operation, an organization must define the minimum level of protective clothing necessary to conduct business. The organization has the obligation to ensure that the equipment provided is compliant and meets the intent for which it will be used. A key component is that personnel understand the use and limitations of the respective protective clothing. These garments and equipment are tested per certain criteria standards, which means they have a limitation and will fail once that limitation (such as a defined temperature) is reached. The protective clothing has built-in safety factors, but it will provide protection for a very short period of time.

The maintenance and care of protective clothing is also important to the safety of the wearer. Poorly maintained protective clothing and equipment leads to accidents and

injuries. The manufacturer's recommendations should be followed with respect to cleaning and repairing these garments and equipment.

The apparatus and equipment that is used for emergency operations must be properly equipped and properly maintained to maximize the safety of personnel. In order for this process to be productive, at least two components must be in place: a preventive maintenance program and a response SOP for "emergency driving" of apparatus.

The preventive maintenance program will ensure that routine maintenance and repairs are performed on apparatus on a scheduled basis. There will be criteria in place that allow apparatus to be placed out of service if certain conditions exist (for example, poor brakes). Maintenance and repairs performed on the apparatus must be done or completed by certified mechanics.

Step 4 of Risk Management Model: Risk Control Measures (cont.)

1. Avoidance:
 - a. The best choice
2. Use of PPE:
 - a. Understand limits

Risk Control Measures (cont.)

3. ICS
4. Personnel accountability system
5. Training and education



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Visual 7-18

Key Points

Incident Command System (ICS)

The command and control of an incident is the key to an effective, efficient, and safe operation. The risks are too great to allow the incident to be managed in an aimless and chaotic manner. Through ICS, an organization can provide a system that effectively manages an incident using such elements as essential decision-making, tactical design, plan survey and modification, and command and control.

Personnel Accountability System

Being able to account for the location of each member at an emergency incident is imperative in the event a problem develops that requires the tracking of all personnel on scene. In the past, through the ICS, organizations have tried to control the accountability of personnel, but freelancing still exists. A personnel accountability system will not be successful unless all personnel buy into the program. A written personnel accountability system will not be effective unless personnel are trained in the process, use the procedures, and are held accountable for noncompliance. From a risk management perspective, the personnel accountability system is an excellent control measure.

Training and Education

Without an effective training program, an organization would be liable for allowing members to function at an emergency without training and certification. From a pre-emergency risk management standpoint, this component is vital for ensuring

consistency, efficiency, and safety. Without training, the incident scene would be nothing more than an out-of-control mess.

The training process is an avenue for testing and evaluating new or revised SOPs or policies. Training is also the approach for instituting and enforcing the safety process in a nonemergency mode or setting.

Step 4 of Risk Management Model: Risk Control Measures (cont.)

3. ICS:
 - a. Through ICS, an organization can provide a system that effectively manages an incident using such elements as essential decision-making, tactical design, plan survey and modification, and command and control
4. Personnel accountability system:
 - a. Being able to account for the location of each member at an emergency incident is imperative in the event a problem develops that requires the tracking of all personnel on-scene
 - b. An excellent control measure
5. Training and education:
 - a. Ensures consistency, efficiency, and safety
 - b. Without training, the incident scene would be nothing more than an out-of-control mess

Risk Monitoring

- **Should be immediate and continuous throughout the incident**
- **Awareness of accident and injury data will assist the Division/Group Supervisor in hazard and risk identification and mitigation**



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Visual 7-19

Key Points

The last step in the process is Risk Management Monitoring. Once control measures have been implemented, they need to be evaluated to measure their effectiveness. Any problems that occur in the process have to be revised or modified. This final step ensures that the system is dynamic and will facilitate periodic reviews of the entire program.

Step 5 of Risk Management Model: Risk Monitoring

- The Risk Monitoring Process should be immediate and continuous throughout the incident
- Awareness of accident and injury data will assist the Division/Group Supervisor in hazard and risk identification and mitigation

Risk Monitoring (cont.)

- Analysis after significant incidents
- After Action Report



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Visual 7-20

Key Points

Step 5 of Risk Management Model: Risk Monitoring (cont.)

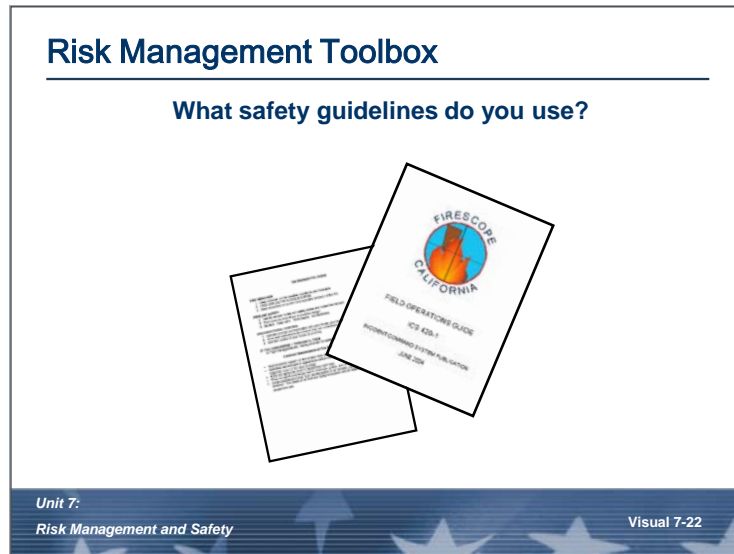
- Analysis after significant incidents (After Action Report):
 - Fatality
 - Serious injury
 - Apparatus accident
- Internal analysis
- Review with risk management division
- An independent evaluation every 3 years



Key Points

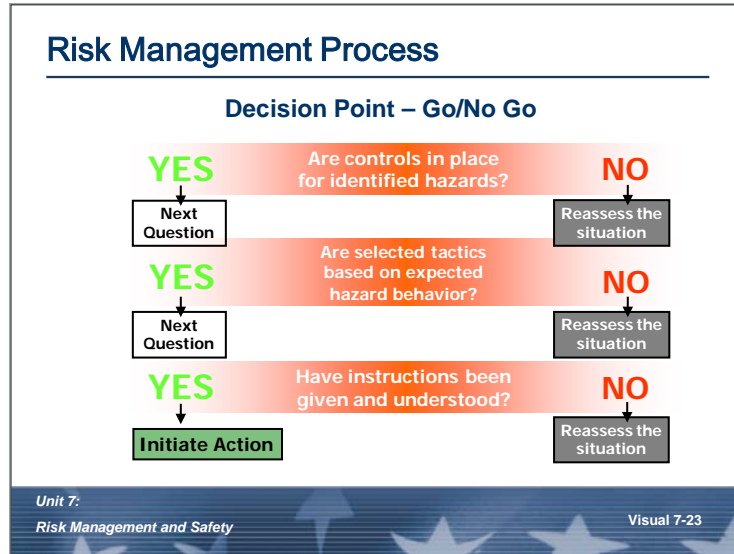
Follow directions from the instructor on how to complete this exercise.

Topic Risk Management Toolbox

**Key Points**

Utilize safety elements outlined in the FOG and other publications:

- SOPs
- 10 Standard Firefighting Orders
- 18 “Watch Out” Situations
- Common denominators
- Lookouts, communication, escape routes, and safety zones (LCES) to evaluate where you are assigning resources
- Industry standards



Key Points

Situational Awareness

A combination of long-held attitudes and knowledge with information gathered from current situation.

- Building a perception
- Accurate and timely new information

Perception  Reality = Situational Awareness

Key Points

Barriers to Situational Awareness

- **Fatigue**
- **Time pressure**
- **Inexperience**
- **Overconfidence**
- **Distraction**
- **Supervisory pressure**
- **Peer pressure**
- **Selective perception**

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Visual 7-25

Key Points

TopicHazardous Attitudes

Hazardous Attitudes

- **Anti-authority**
- **Impulsive**
- **Invulnerable**
- **Macho**
- **Resignation**

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Key Points

Key Questions

- Can personnel work safely?
- Do you understand the strategy and tactics?
- Has a briefing been held with feedback?



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Visual 7-27

Key Points

Key Questions

- Can personnel work safely?
 - How do you know they are working safely?
- Do you understand the strategy and tactics?
- Has a briefing been held with feedback?

TopicDivision/Group Supervisor Safety Commitment

Division/Group Supervisor Safety Commitment

The Division/Group Supervisor must show a personal commitment to safety.

How can this be done?

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Visual 7-28

Key Points

How do you demonstrate a personal commitment to safety?

Topic Division/Group Supervisor Safety Examples

Division/Group Supervisor Safety Examples

- Stress safety in briefings and one-on-one
- Listen to safety concerns of incident personnel
- Ensure subordinates understand their safety responsibilities
- Visit divisions and incident facilities
- Set examples by wearing appropriate PPE
- Expect the unexpected
- Consider personnel welfare needs

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Key Points

Do more than repeatedly say, “Be safe out there.” Responders at briefings will tune it out. Instead, listen actively, take the intelligence provided by your subordinates seriously, and demonstrate your seriousness to others.

Know the stakes of action. Do not endanger your life or the life of others if you’re just saving property. Be aware of responders who take rash chances and needlessly endanger themselves and their team.

The law will protect your decisions, even in the absence of supporting regulations, if your decisions are similar to the way a prudent, responsible person would act in the same situation.

Make sure to attend to personnel welfare needs. If people are tired, hungry, angry, frustrated, or psychologically shaken, they’ll be more likely to make rash decisions.

- Listen to and take immediate action to address safety concerns from incident personnel
- Make sure your subordinates understand their responsibility for safety
- Visit all divisions and incident facilities personally
- Set the example by wearing appropriate PPE
- Never take anything for granted; act on anything that feels or appears hazardous

- Consider personnel welfare needs:
 - Food
 - Liquids
 - Rest
 - Critical incident stress debriefing
 - Rehabilitation

Topic Objectives Review

Objectives Review

1. *What is the definition of risk management? Risk assessment?*
2. *What are the steps involved in risk management processes?*
3. *What is hazard mitigation?*

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Key Points

Unit Terminal Objective

Describe the risk management and safety responsibilities of the Division/Group Supervisor.

Unit Enabling Objectives

- Define risk management and risk assessment
- Describe the risk management processes
- Describe the concepts of hazard mitigation