Decision-Making and Emergency Responses
Objectives

• Understand the decision-making process
• Apply a model for decision-making to emergency responses
• Describe the impact of an emergency environment on decision-making
Basics of Decision-Making
Definitions

• Problem-solving
  – Set of activities designed to analyze a situation systematically and generate, implement, and evaluate solutions

• Decision-making
  – A mechanism for making choices at each step of the problem-solving process

Decision-making is part of problem-solving and occurs at every step of the problem-solving process.
Problem-Solving Model

Step 1: Identify the problem
Step 2: Explore alternatives
Step 3: Select an alternative
Step 4: Implement the solution
Step 5: Evaluate the situation
Step 1: Identify the Problem

• Problem: A situation or condition that is considered undesirable that will exist in the future

• Problem vs Solution
  – Not having a mine rescue team vs not having an effective emergency response process

• Assess the problem
  – What is happening or not happening?
  – Who is involved?
  – What are the potential consequences?
Step 2: Explore Alternatives

• Involves two tasks:
  – Develop alternatives
  – Evaluate alternatives
Developing & Evaluating Alternatives

• Processes to develop alternatives
  – Brainstorming
  – Surveys
  – Discussion groups

• Evaluate alternatives

• Identify contingencies – what could go wrong with each alternative

Case Study 1 – Develop alternatives
Step 3: Select Alternative

- Alternative selected should have the most advantages and the fewest disadvantages
- Consider how to implement alternative – do a “reality check”
- Outside factors that need to be considered when selecting alternative
  - Political, safety, financial, environmental, ethical

Case Study 1 – Select alternative
Step 4: Implement the Solution

• Develop an action plan
• Determine objectives
• Identify needed resources
• Build a plan
• Implement the plan

Case Study 1 - Implementing plan
Step 5: Evaluate the Solution

• Monitoring progress...
  – Has the situation changed?
  – Are more resources required?
  – Is a different alternative solution required?

Problem-Solving is not complete unless the solution is evaluated and results are fed back into the process
Approaches to Decision-Making
Approaches to Decision-Making

- Individual
- Individual with consultation
- Group
- Delegation

Leader retains ultimate responsibility for decision.
Selecting Decision-Making Approach

- Amount of time
- Expertise of decision-maker / group
- Is the decision complex with many solutions
- Does the group share organizational goals
- Is commitment to the decision by others critical to success of the decision
- Will decision impact a few or many other groups/organizations

Activity – Selecting Approach
Successful Group Decision-Making

• Avoid “Groupthink”
  – Occurs when members of group let their need to agree with other members interfere with their ability to think critically about the decision

• Conditions leading to groupthink:
  – Overestimation of the group’s ability & power
  – A “we” vs “they” attitude
  – Pressure for conformity
Groupthink and Emergencies

• Groupthink more likely to occur during emergencies
  – Time pressure forces quick decisions
  – Emergency response personnel have a high degree of cohesion.

• To prevent Groupthink
  – Encourage dissenting opinions
  – Discuss the need to remain open to other alternatives
  – Evaluate decision-making patterns for previous emergencies and take corrective actions
Consensus

• Group members actively support the decision of the group, even though it might not be their personal choice
• Consensus is not 100% agreement
• Tips for achieving consensus
  – Avoid win-lose techniques
  – Look for alternatives that are second best
  – Do not encourage harmony as an objective
Effective Decision-Maker

**Definition**

- Makes decisions with competence and confidence
- Most decisions are correct

**Attributes**

- Knowledge
- Initiative
- Advice-seeking
- Comprehensiveness
- Currency
- Flexibility
- Good judgment
- Calculated risk-taking
- Self-knowledge
Decision-Making and Emergencies
Main Factors Affecting Decision-Making during Emergencies

• Stress
• Time pressures
• Consequences of wrong decision – life or death
• Sleep deprivation and fatigue
Other Factors Affecting Decision-Making During Emergencies

- Possible political pressures
- High or low blood sugar levels as a result of erratic eating patterns
- Caffeine
Decision-Makers Under Stress

• Experience conflict with other key players
• Perceive selectively because of sensory overload (miss important information)
• Experience perception distortion and poor judgment
• Be less tolerant of ambiguity (make premature decisions)
• Experience decreased ability to handle difficult tasks and work productively
• Experience greater tendency toward aggression and escape behaviors.
Decision-Makers Under Stress May:

- Consider only immediate survival goals, sacrificing long-range considerations
- Choose a risky alternative
- Get tunnel vision
- Succumb to “groupthink”
How to Reduce Stress

• Be Systematic - follow problem-solving model
• Delegate some tasks – rely on experts
• Attend training
  – Stressors are no longer stressful
• Take breaks / sleep / eat nutritious foods
Bucket Model of Fatigue

Source: New Zealand Dept. of Labour

Excessive or insufficient intensity and duration of physical and mental effort in relation to recovery time and timing of breaks

Physically demanding or hazardous environment
- climate
- noise
- lighting
- ergonomics, etc

Excessive or insufficient mental and emotional demands, responsibilities, worries, conflicts and social interactions

Illness, pain, disturbed sleep or circadian rhythm, poor nutrition or exercise

Organisational demands of work – including shiftwork – out of work and supply chain influences

Opportunities for relief from shiftwork opportunities for personal progress; high quality training and supervision; consultation and collaboration

Recuperation, rest, restorative sleep, relaxation, healthy nutrition, good health, stimulating, rewarding and supportive work with task variety and a sense of control
Fatigue and Performance

24 hours of sustained wakefulness, performance decreased to a level equivalent to a blood-alcohol level of .10 percent
- Details are missed
- Accuracy is impaired
- Performance is slowed
Decision Environments

Ideal Environment
• All possible information is known
• All information is accurate

Emergency Environment
• Lack of information
• Conflicting information
• Information may not be accurate
• Uncertainty

Hindsight is better than Foresight in making decisions!
Delaying Decisions

Benefits
• Decision environment will be larger – have more information
• New alternatives may be identified
• Preferences may change

Risks
• Decision maker may become overwhelmed
• Some alternatives may no longer be available
• Conditions may change
Is Too Much Information Problematic?

- More time is needed to process additional information
- Information overload may occur (may forget pertinent information)
- Select only information that supports a preconceived solution
- Mental fatigue may occur
- Decision fatigue may occur
Case Study 2
Discussion


