

CRM 4 EMS

**Peter I. Dworsky, MPH, NREMT-P, CEM
MONOC Emergency Medical Services**

What Do These Industries Have in Common?



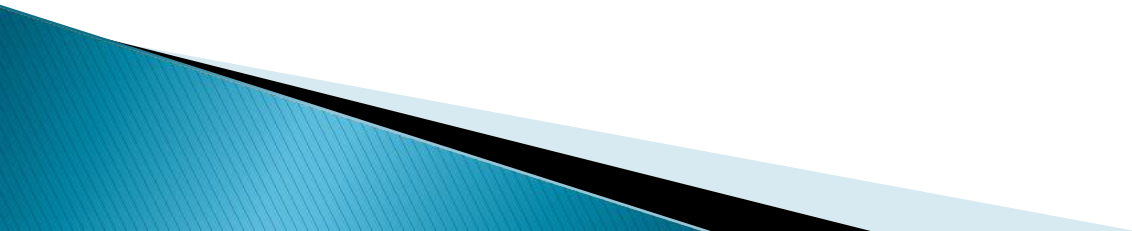
© AIRBUS S.A.S. 2010 - COMPUTER RENDERING BY

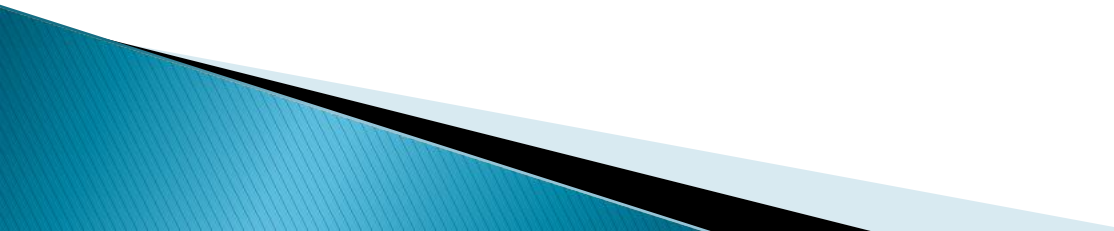


High Risk Industries

- ▶ Require
 - Good decision making
 - Excellent communication
 - Situational awareness
 - Teamwork
- ▶ Margin of error is miniscule
- ▶ Adverse events could be disastrous

High Reliability Organizations

- ▶ Minimize the effect human error has on operations
 - ▶ Maximize human performance
 - ▶ Maximize favorable outcomes
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- ▶ Efficient use of all available resources:
 - Humanware Software, hardware
 - Crew, machine, environment
 - People hardware, information
 - Equipment, systems, people
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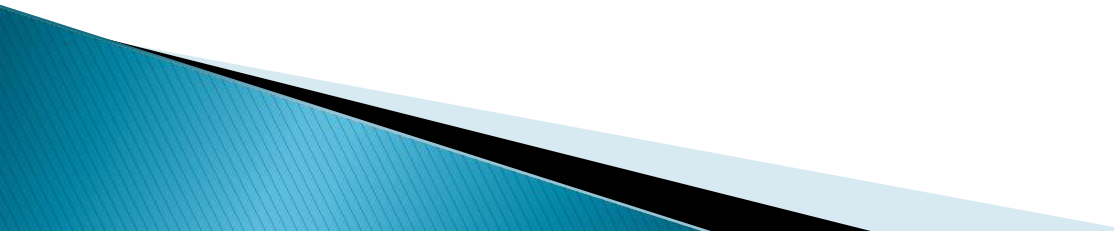
Crew Resource Management (CRM) is a flexible, systemic method for optimizing human performance in general, and increasing safety in particular...



CRM is:

- ▶ A method created to optimize performance
- ▶ A systems approach to safety that
 - Emphasizes the inherent nature of error
 - Promotes a non-punitive culture
 - Centers on clear, comprehensive standard operating procedures

CRM isn't:

- ▶ A quick fix
 - ▶ A stand-alone system
 - ▶ Passive
 - ▶ An off-the-shelf cook-book of policies
 - ▶ A way for management to dictate and control behavior
 - ▶ A method of managing by committee or undermining the team leader's authority
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History of CRM

- ▶ Introduced by NASA in 1979
- ▶ Designed as a training program to
 - Improve air travel safety
 - Reduce the increasing number of fatal accidents attributable to human error
- ▶ Studies found that 70% of aviation accidents were due to human error
- ▶ The leading causes of which were failures of
 - Leadership
 - Interpersonal communication
 - Decision-making within the cockpit

Errors are not random

- People cause accidents by making errors
- Errors arise from
 - poor teamwork
 - poor communication and d
 - istractions
- ▶ By mitigating errors, we reduce deaths and injuries



Human Factor Error Causes

Lack of Communication Complacency

Lack of Knowledge

Lack of Teamwork

Lack of Assertiveness

Lack of Resources

Lack of Awareness

Distraction

Fatigue

Pressure

Stress



Tenerife Airport

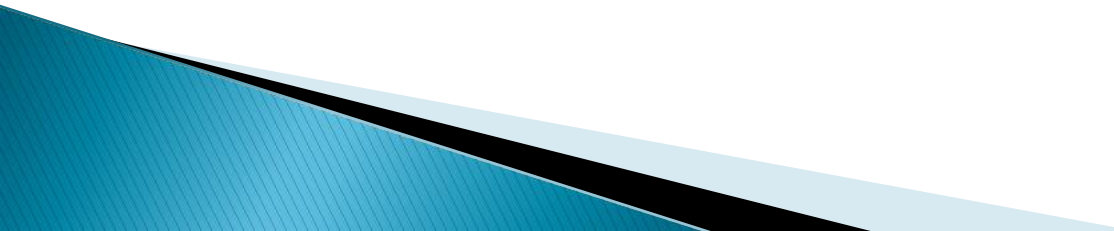
- ▶ March 1977
- ▶ Survivors – 61
- ▶ Fatalities – 583



UAL Flight 173

- December 28, 1978:
 - When the landing gear light failed to illuminate, the pilots delayed landing while working on solution.
 - They did not monitor the fuel reserves.
 - When the fuel ran out, the plane crashed in a residential area of Portland, Oregon.
 - Ten people died.

First Formal Training

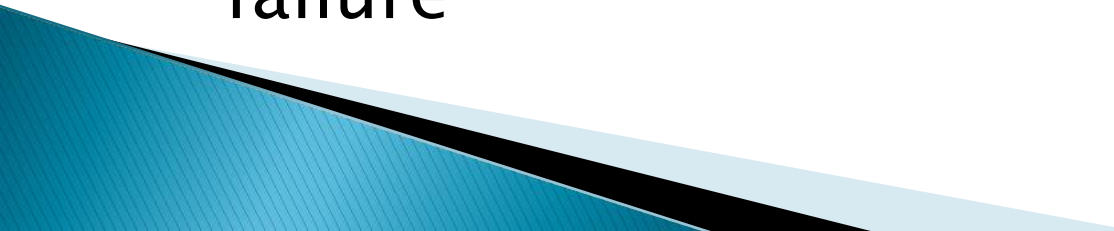
- ▶ 1981 – United Airlines initiated the first formal Cockpit Resource Management training
 - ▶ Progressed to Crew Resource Management,
 - ▶ Next Gen CRM = Threat & Error Management
- 

Universal Skills & Techniques

- ▶ Communication skills
- ▶ Teamwork
- ▶ Situational awareness
- ▶ Decision making and leadership
- ▶ Conflict resolution
- ▶ Debriefings
- ▶ Threat and error management



EMS and CRM

- ▶ CRM can be applied to:
 - Communications
 - Operations
 - Logistics
 - Clinical services
 - Resource Management
 - ▶ All provide crucial support and services to an operation
 - ▶ A failure in any area can lead to a system failure
- 

Communication

- ▶ Information exchange

- Words
- Medium
- Vocal tone
- Body language

- ▶ All must be used effectively in order to be effective communicators and not create barriers



Effective Ways to Communicate

- ▶ Teams with effective communication skills:
 - Provide information when asked
 - Repeat as necessary
 - Request and provide clarification when needed
 - Ensure statements are direct and unambiguous
 - Inform team members when plans change

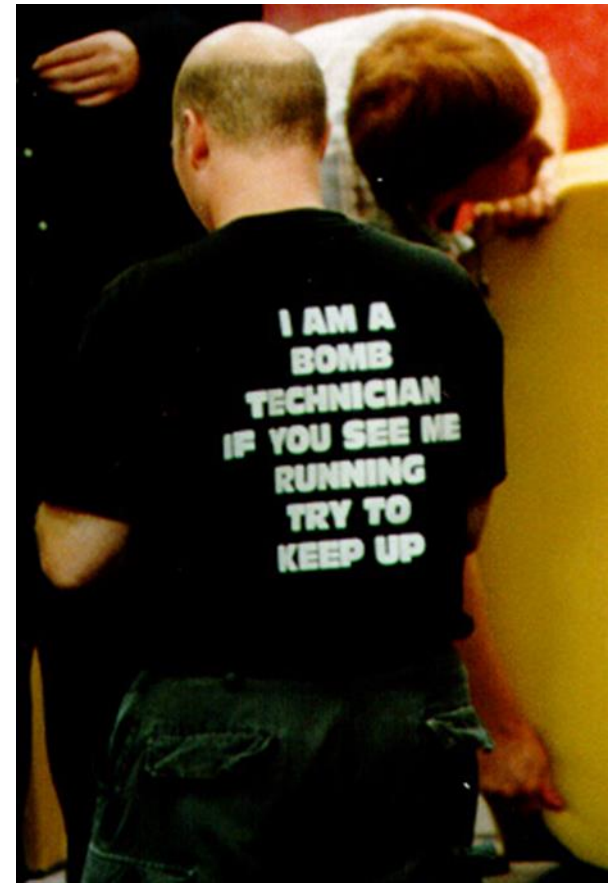


Effective Ways to Communicate

- ▶ Teams with effective communication skills:
 - Communicate information needed by those individuals or teams external to the team
 - Use nonverbal communication appropriately
 - Use proper order when communicating information

Clear Message

- ▶ The components of a clear message include:
 - Who is doing it?
 - What is being done?
 - Where it is being done?
 - When it is being done?
 - Why it is being done?



Barriers to Effective Communication

- ▶ Block, distort, or alter the information / message
- ▶ Barriers include:
 - Anger or frustration
 - Personal bias
 - Lack of confidence
 - Inappropriate priorities
 - Tunnel vision
 - Interruptions



Barriers to Effective Communication

- ▶ Barriers include:
 - Terminology
 - Agency specific
 - Technology
 - Interoperability
 - Medium

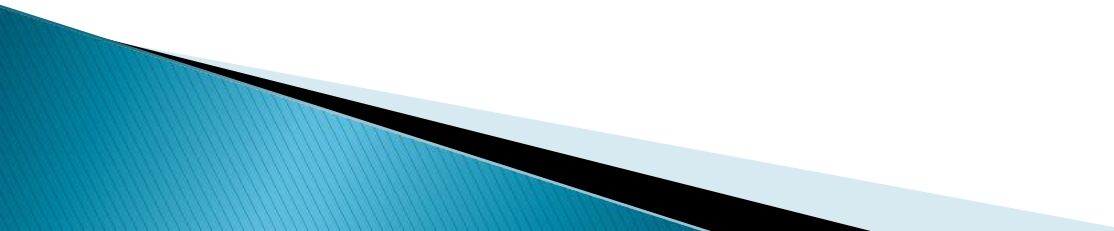


Receiving the Message

- ▶ Listen carefully
- ▶ Confirm what is being said
- ▶ Clarify if needed
- ▶ Offer an opinion
- ▶ Observe the speaker



Assertiveness

- ▶ Allows for effective communication
 - ▶ Helps to avoid mistakes, focus issues & resolve differences
 - ▶ Every crew member has a right and responsibility to ensure a safe & efficient outcome
 - ▶ Must be devoid of the fear of reprisal
- 

- ▶ <https://www.youtube.com/watch?v=6l21QWpD3as&feature=youtu.be>

Teamwork

- ▶ Two aspects of the nature of teamwork are important:
 - The individual's ability to function as a member of the team
 - The entire team's ability to function as an efficient collective entity
- ▶ Each team member must possess general team competencies and skills

Sterile Cockpit

- ▶ Minimize distractions and help maintain focus during critical tasks.



Situational Awareness

- ▶ It's the "big picture"
 - Knowing what is going on
 - Why it is happening
 - What is likely to happen next



- ▶ Enables us to recognize events around us, act correctly when things go as planned and react appropriately when they don't

Situational Awareness

- ▶ Requires constant scene size-up and:

Observation

Communication

Alertness

Full attention

Perpetual vigilance

Recognition of perception versus reality



Situational Awareness

- ▶ Ask yourself:
 - What can go wrong?
 - What are the risks and hazards?
 - What can change?
 - What are the distractors?



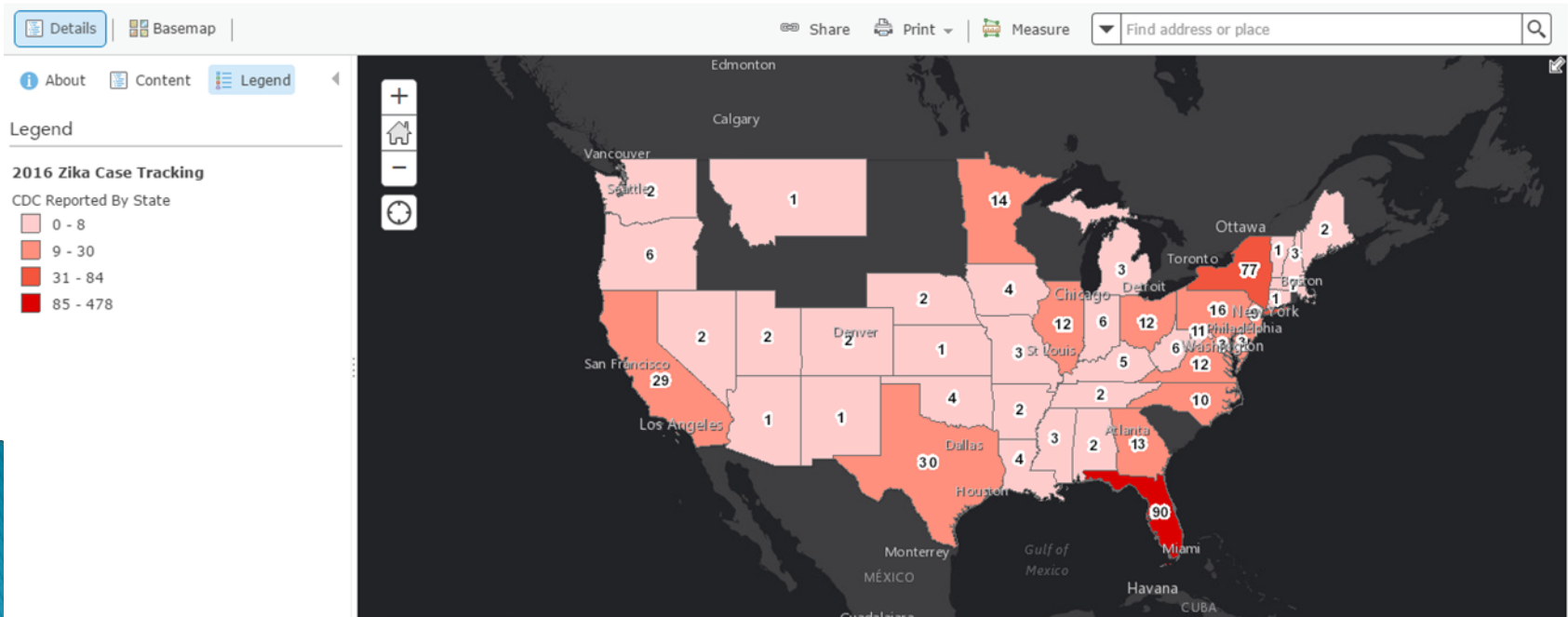
Reality times Perception still equals Reality.
- The Killer Equation

Hippocrates Web EOC ARC-GIS Fusion Centers Facebook

<http://geohealth.hhs.gov/arcgis/home/>

Home ▾ 2016 Zika Virus affected Countries

Modify Map Sign In

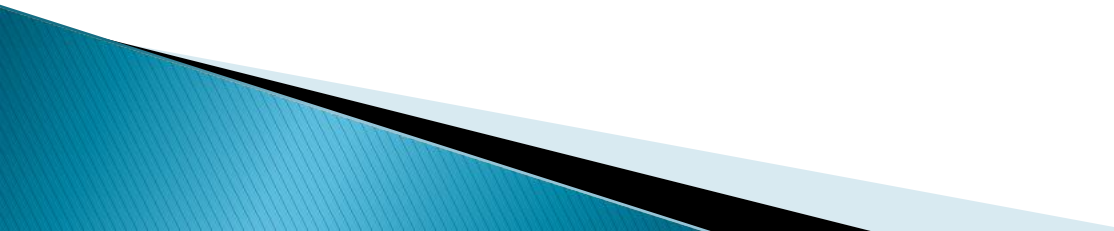


Red Flags

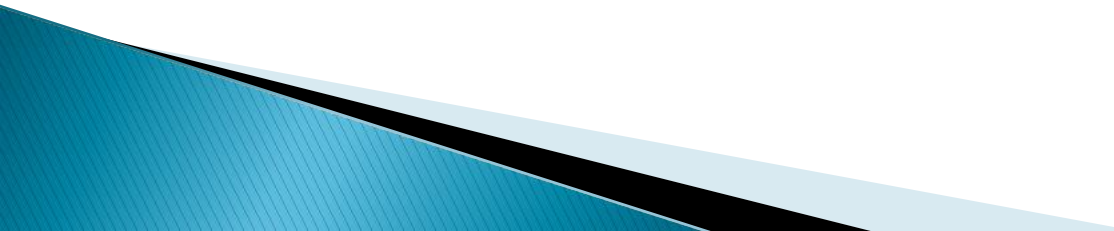
- ▶ A Red Flag indicates the loss of situational awareness and generally means that something is going wrong
- ▶ Some common red flags include:
 - Feeling confused
 - A gut feeling
 - Unanticipated hazards
 - Using improper procedures
 - Failing to meet planned targets
 - Pre-occupation



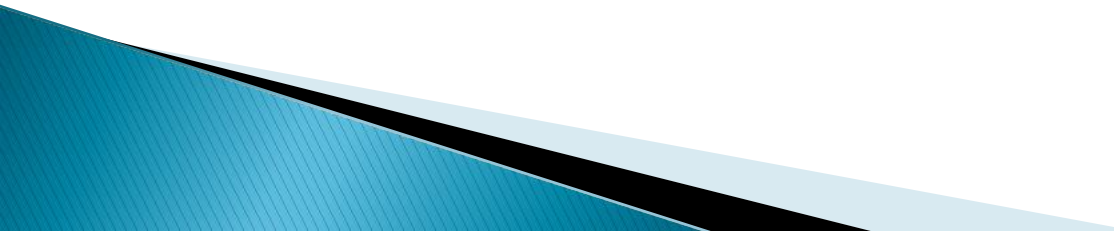
Leadership Skills

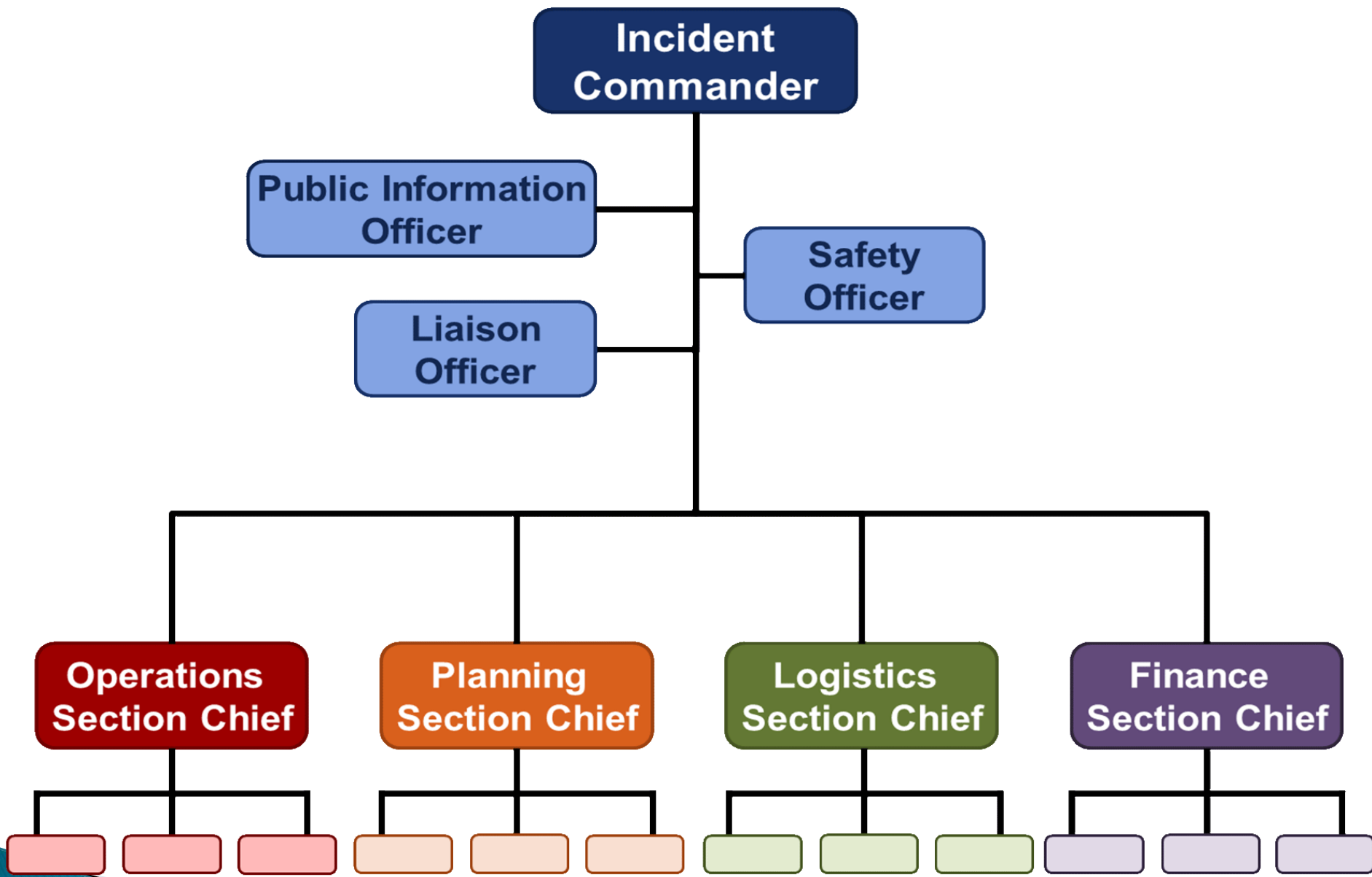
- ▶ Be able to get the team's attention and hold it while distractions occur
 - ▶ Gain situational awareness
 - ▶ Identify goals
 - ▶ Set specific and achievable objectives
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Leadership Responsibilities

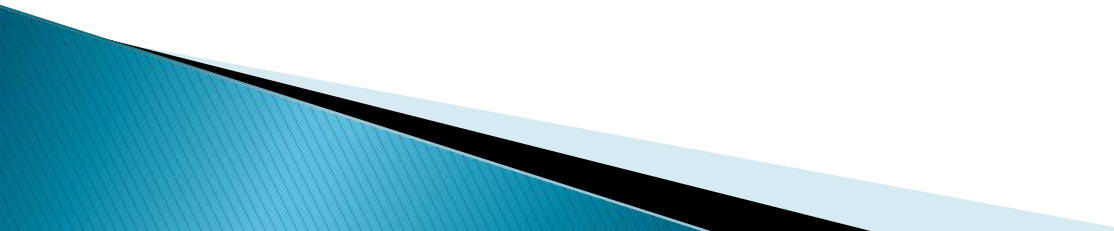
- ▶ Envisioning goals and setting clear objectives
 - ▶ Delegating authority
 - ▶ Taking responsibility
 - ▶ Gaining commitment and motivating the team
 - ▶ Maintaining situational awareness
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Leadership Responsibilities

- ▶ Understanding individual and team limitations
 - ▶ Possessing the ability to adjust to the situation
 - ▶ Valuing team diversity
 - ▶ The ability to listen and communicate clearly
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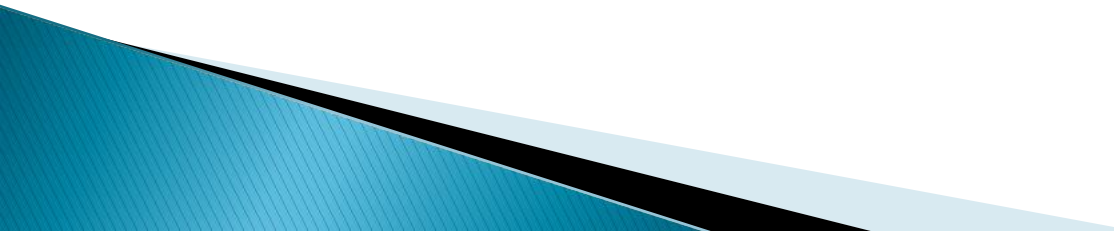


Situations to Avoid

- ▶ Ambiguity
 - ▶ Distraction
 - ▶ Fixation
 - ▶ Overload
 - ▶ Complacency
 - ▶ Improper procedures
 - ▶ Unresolved discrepancies
 - ▶ Normalization of Deviance
- 

Decision Making

- ▶ Decision-making is a dynamic process
 - ▶ Decisions are often interrelated and interdependent
 - ▶ Decision-making skill can be improved by study and practice

 - ▶ How do we make decisions during an incident?
- 

Decision making process



Conflict Management

- ▶ Principles necessary to support conflict management include:
 - A willingness to acknowledge existence of conflict
 - Open communication
 - Dealing with conflict within an environment of mutual respect
 - Acceptance and tolerance of different perspectives through the process
 - Commitment to fundamental fairness
 - Recognition that conflict management is a dynamic process

2008 Taj Mahal Hotel – Mumbai



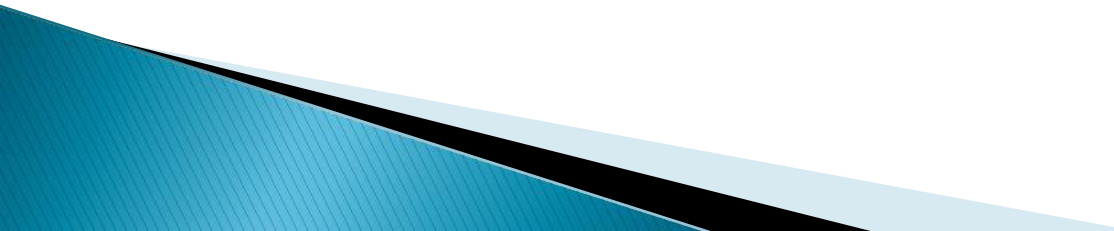
Debriefings

▶ Purpose

- Highlight individual and team successes
- Improve team work and collaborative decision making
- Improve services and procedures
- Capture knowledge of the participants
- Turns individual experts into expert TEAMS



An Effective AAR

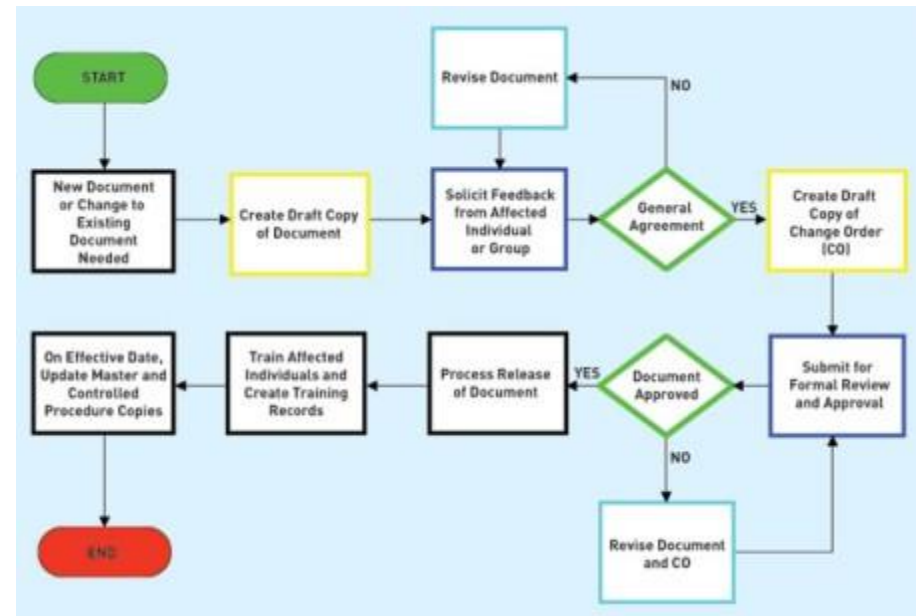
- ▶ Establishes expectations
 - ▶ Identifies and reinforces the positive
 - ▶ Focuses on individual & team accountability
 - ▶ Team centered
 - ▶ Strives for self-discovery
 - ▶ Develops a specific action plan
 - ▶ Sets time table
- 

Keys to Error Management

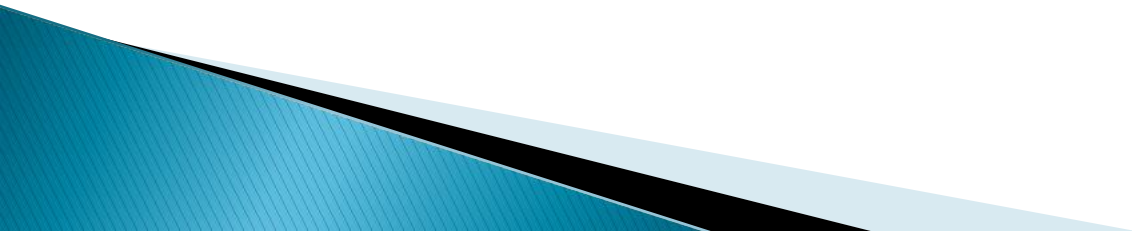
- ▶ Acknowledge that errors are possible
- ▶ Communicate
- ▶ Follow your SOPs
- ▶ Before acting, ask if the action sensible?



Check lists



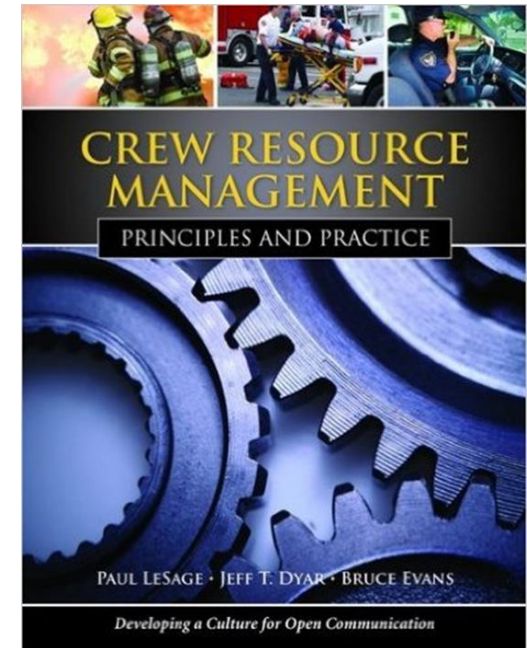
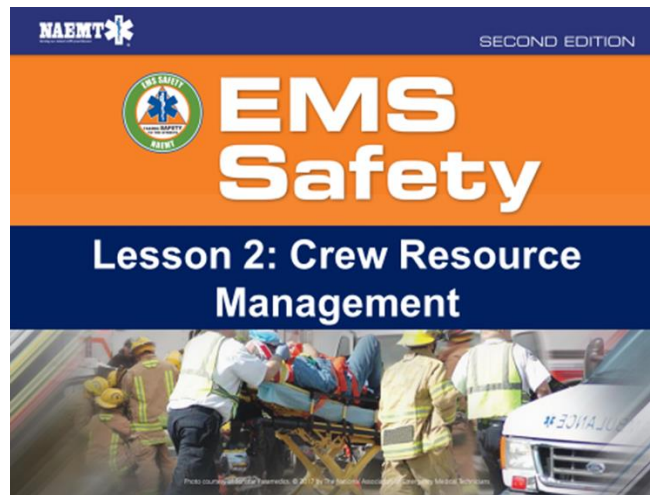
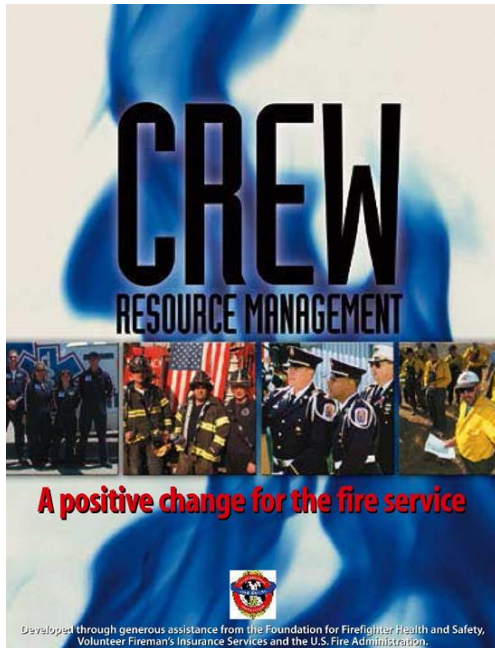
Error Mitigation

- ▶ Recognize errors so that they can be avoided in the future
 - ▶ Report and learn from near-misses
 - ▶ Have redundancies in place
 - COOP
 - COG plan
 - ▶ Have a time out
 - ▶ Enforce safety breaks
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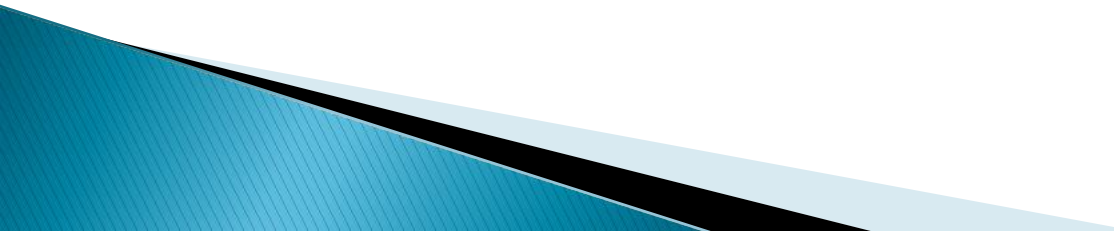
Error Reduction Strategies

- ▶ How can we reduce errors?
 - Plan ahead
 - Maintain situational awareness
 - Use all resources effectively
 - Humanware
 - Software
 - Hardware

Proliferation of CRM



CRM Success Strategies

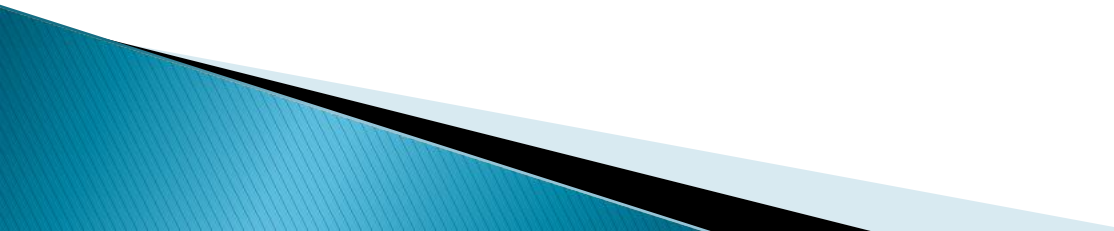
- ▶ Based on the acceptance of the entire EM agency
 - ▶ Laying a solid foundation includes:
 - ▶ Training personnel in open communication techniques
 - ▶ Identifying and tracking errors
 - ▶ Training personnel in conflict management
 - ▶ Fostering an open learning environment
- 

CRM Success Strategies

- ▶ Every team member has an appreciation of:
 - ▶ The nature of the problem
 - ▶ Team members' strengths and weaknesses
 - ▶ What is likely to happen based on taking no action
 - ▶ What is likely to happen if a specific action is chosen
 - ▶ A shared knowledge of the desired outcome
 - ▶ A shared strategy
 - ▶ Respectful and open communication



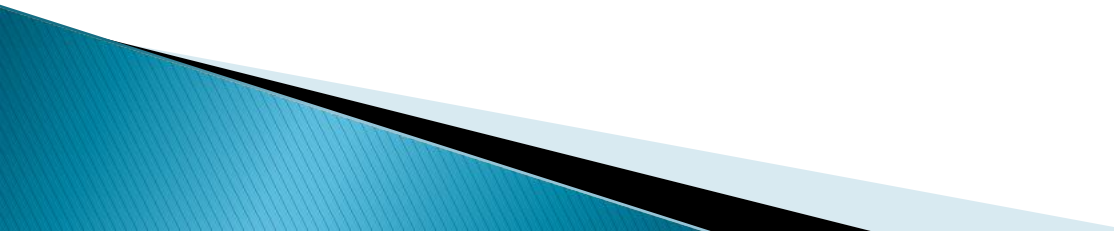
Keys to Success

- Training for everyone
 - Buy-in at the highest level of the organization
 - Embed teamwork behavior in daily work
 - Ongoing & refresher education
 - Review of best practices
 - Interaction of leadership
 - Measurement of safety and team skills against established metrics
 - Coaching when necessary
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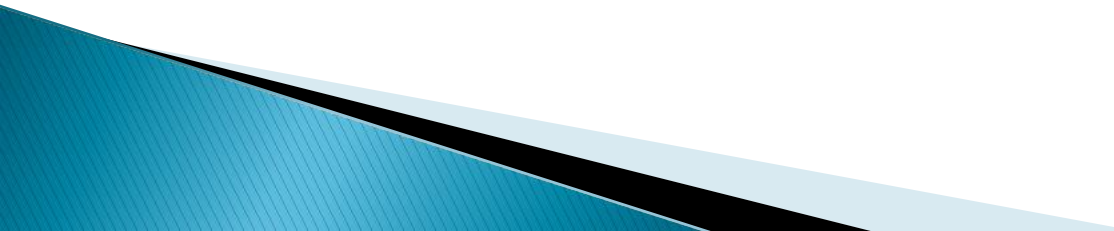
Know Team Limits

- ▶ Before assigning tasks:
 - Know the limits, strengths, and weaknesses of team members
 - Capitalize on team members' strengths

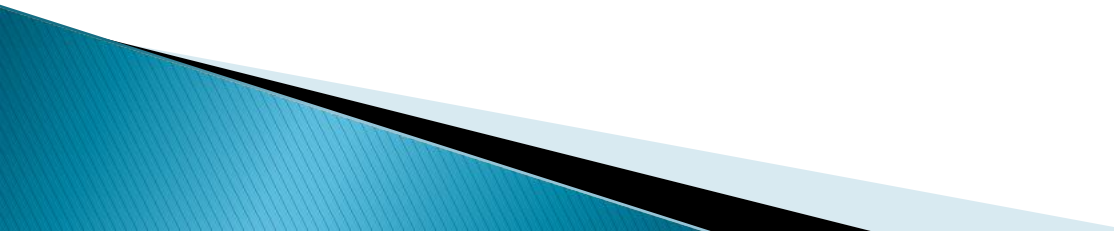
CRM in Context

- ▶ Not a mechanism to eliminate all errors
 - ▶ Can't guarantee absolute safety
 - ▶ Error is an inevitable result of the natural limitations of human performance and the function of complex systems
 - ▶ One of many tools that organizations can use to manage error
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The key principles of CRM are:

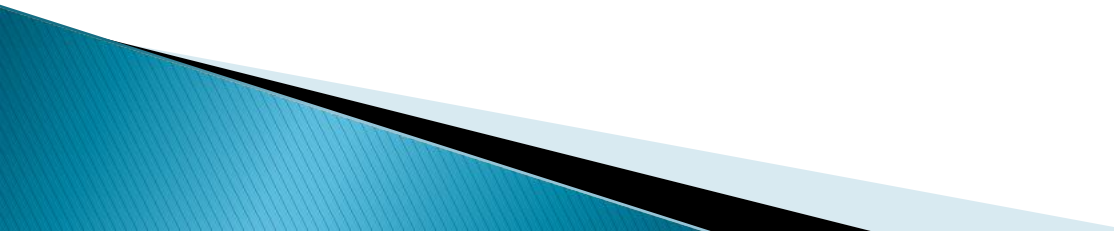
- ▶ Know your environment
 - ▶ Anticipate, share and review the plan
 - ▶ Ensure leadership and role clarity
 - ▶ Communicate effectively
 - ▶ Call for help early
 - ▶ Allocate attention wisely – avoid fixation
 - ▶ Distribute the workload
- 

EM needs to be like aviation

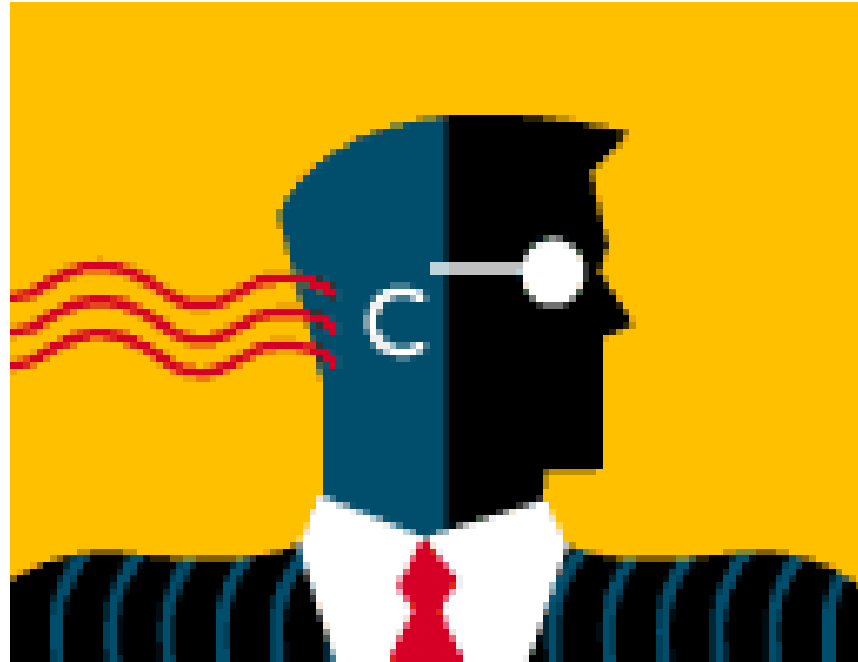
- ▶ Pilots understand that flying is a privilege
 - ▶ Aviation functions in a rigorous culture of safety
 - ▶ Skills & procedures are standardized
 - ▶ Teamwork is the daily routine
 - ▶ Pilots anticipate, train, plan & brief for emergencies
 - ▶ Pilots lives are on the line every flight
- 

Summary

CRM is...

- ▶ Not a mechanism to eliminate all errors
 - ▶ Can't guarantee absolute safety
 - ▶ Only one of many tools that organizations can use to manage errors
 - ▶ Appropriate use of:
 - ▶ Software
 - ▶ Hardware
 - ▶ Humanware
- 

Questions?



Peter I. Dworsky

Peter.Dworsky@MONOC.org



