# Soft skills in disaster preparedness and relief

## A NEW APPROACH TO SAFETY FOR NON-HEALTH CARE RESCUE TEAMS

*An Eur-Opa 2014-15 Project*

Eur-Opa Major Hazards Agreement
*Council of Europe*

European Center for Disaster Medicine
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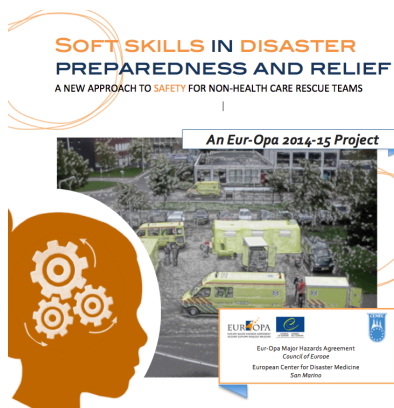
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# SOFT SKILLS IN DISASTER PREPAREDNESS AND RELIEF

A NEW APPROACH TO SAFETY FOR NON-HEALTH CARE RESCUE TEAMS

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# WHAT ARE SOFT SKILLS ?

Soft skills, also called **Non-technical skills**, reflect the interpersonal (e.g. communication, teamwork, and leadership) and cognitive skills (i.e. decision-making and situational awareness), that complement rescuers technical skills. In case of emergency or disaster, non-technical aspects of performance are effectively captured by the way a team works together to deliver care safely.

Why is team-working/non-technical performance in rescue operations important ?

**Failures in teamwork and non-technical skills** in rescue operations have been recently implicated in adverse events and failures to save lives and to mitigate the impact of the disaster. In contrast, empirical evidence has found that superior teamwork is associated with fewer errors and better efficiency of rescue teams.

# WHAT ARE THE SIGNIFICANT BEHAVIORAL DIMENSIONS OF TEAMWORK ?

**1** **COMMUNICATION**: quality and quantity of information exchanged among members of the team

**2** **COORDINATION**: management and timing of activities and tasks

**3** **COOPERATION AND BACK UP BEHAVIOUR**: assistance provided among members of the team, supporting others and correcting errors

**4** **LEADERSHIP**: provision of directions, assertiveness and support among members of the team

**5** **TEAM MONITORING AND SITUATIONAL AWARENESS**: team observation and awareness of ongoing processes

# Background

Safety management in organizations has seen good developments. Early safety issues focused primarily on environment and equipment (the technology) matters, while later practices also considered human aspects (human factors) and the overall management of the organization (organizational factors). The current approach to safety management is to address all three aspects—the technology, the individual or human, and the organization—and the interaction between them, to both create and maintain safe operations and reduce the relative risk. This overall approach to safety is known as the holistic approach to safety or simply, holistic safety.

EUR-OPA, like other institutional bodies in Europe, has started to work on developing capability in holistic safety and to human factors with special focus to major risks. Charged with the mission to facilitate co-operation in the field of major natural and technological
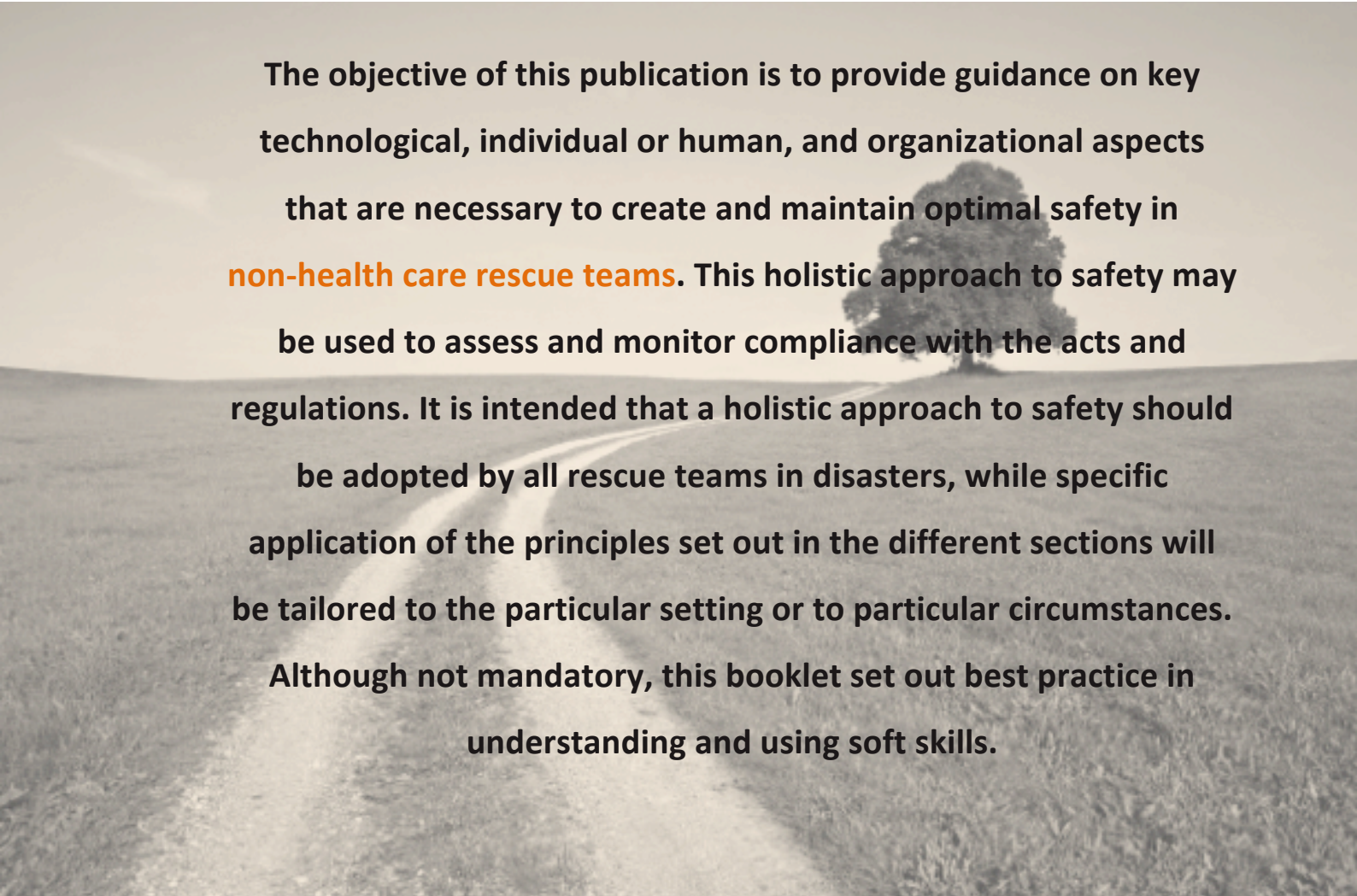
disasters between Europe and the South of the Mediterranean, EUR-OPA proposes to use a holistic approach to assess and monitor the safety of rescue teams in disaster settings.

In this booklet, the key principles behind soft skills are described in five sections. Within each section are topics (grades) that more specifically outline the ways in which soft skills can be understand, learned and used in emergency situations. A safe rescue team, as any human organization, exhibits the key characteristics as described in this booklet. The presence of these characteristics has been found to both increase organizations' resistance to incidents and accidents while improving overall safety management and results.

Although each characteristic may be considered separately, there is significant overlap, interaction and interdependency between the technological, the individual or human, and the organizational aspects of safety. It is an appreciation of these interconnected relationships that separates holistic safety from other approaches to safety management.

# Aim and Objectives

The objective of this publication is to provide guidance on key technological, individual or human, and organizational aspects that are necessary to create and maintain optimal safety in non-health care rescue teams. This holistic approach to safety may be used to assess and monitor compliance with the acts and regulations. It is intended that a holistic approach to safety should be adopted by all rescue teams in disasters, while specific application of the principles set out in the different sections will be tailored to the particular setting or to particular circumstances. Although not mandatory, this booklet set out best practice in understanding and using soft skills.
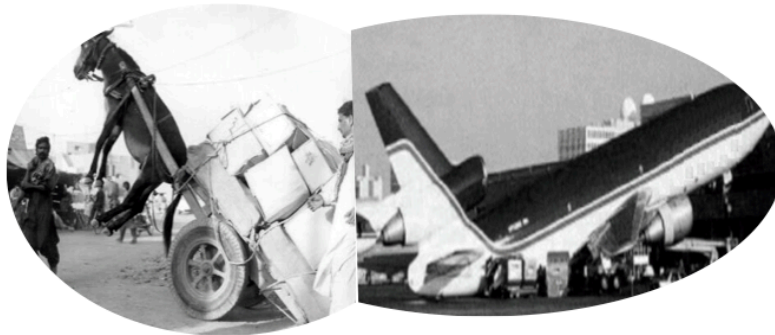
# Soft skills IN DISASTER PREPAREDNESS AND RELIEF

# Section 1 – Human errors

*"The errors of one moment become the sorrows of a whole life"*

ancient Chinese proverb

**Types**

**of error**

Errors can be classified in various ways but the simplest classification is to divide errors into unintentional errors called slips or deliberate errors called violations. Errors or mistakes can be due to carelessness, negligence, poor knowledge, poor judgment, lack of available resources, stress arising from fatigue, poor staffing,



expectations beyond people's capacity and external worries. Most unintentional errors are due to lapses of concentration, distractions or fatigue.

Violations often relate to personality types such as individuals listed as being difficult team members. The anti-authority, impulsive and macho types generally do not follow guidelines and protocols willingly, prescribing guidelines may all be deliberately ignored. Personality types can become exaggerated under stress and cause further problems. A 'difficult' autonomous

individual may become arrogant, a very self confident competent person may portray an air of invulnerability. These traits can make it difficult for the rest of the team, particularly junior team members to questions decisions regarding evaluation or management.

*Latent errors* are buried deep in systems and may be difficult to cure. Perhaps a department is understaffed with unrealistic expectations, monitors may be out-dated with frequent malfunctions, maybe there is an absence of training and protocols or poor management.

**Near miss**

Normally two people check drugs in the Emergency department. However, these departments are very busy and there is the risk the person checking will assume the first person is right and see what they expect to see. The font size on the tiny ampoules is extremely small and as people get older it is more difficult to read them. Near misses are not usually reported, they take time and no-one wants to cause trouble especially if a patient is not affected.

Other reasons quoted for not reporting errors include:

- Sense of failure

- Sense of blame

- Fear a report will be used out of context

- Fear of a legal risk

- Benefits of reporting are not always clear

- Lack of change when an incident is reported

- Lack of time to report

- Not sure how to write a report or where to send it to

- The reporting system seems too complicated

**The Swiss cheese hypothesis**

There is often a combination of factors resulting in the 'Swiss cheese' model of error (Reason).

Errors can be studied using either by a personal approach or a system approach.

1. The personal approach looks into all the factors that might contribute to an individual making a mistake, for example
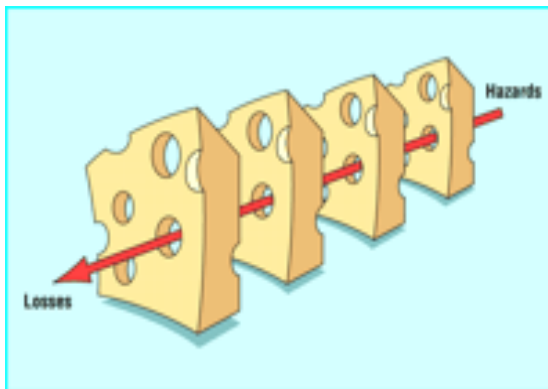
forgetfulness, irritation, carelessness and poor motivation.

2. The systems method looks into how institutions are organised. The systems approach also states that mistakes are inevitable and its purpose is to put some 'countermeasures' in place that can prevent potential disasters. The Swiss cheese model of how defences, barriers and safeguards maybe penetrated by an accident trajectory.

In any organisation, there are many safety nets for the prevention of disaster. These range from simple things like alarms and physical barriers to more complicated ones like electronic shut downs and administrative controls. Each one of them acts as a separate safety net. Even if one or two fail, the rest will still be enough to prevent an adverse event.

This can be compared to many slices of Swiss cheese. Each slice has a few holes, which are in different places. In some unfortunate cases though, everything seems to go wrong: the holes in many layers momentarily line up to permit a trajectory of accident opportunity, bringing hazards into damaging contact with victims.

# Section 2—Human Factors

A safe rescue team will possess processes and controls that take account of weaknesses and strengths in human performance

**Clarification and Rationale**

In the context of this document, Human Aspects/Factors is a body of knowledge about human abilities, human limitations, and other human characteristics. Human factors engineering is the application of human factors to the design of tools, machines, systems, tasks, processes, and environments for safe, comfortable, and effective human use.

# Grade A



**The selection of suitably qualified and experienced, competent personnel**

- Rescue teams leaders and builders should ensure requirements for safety and security are considered and assessments of skills and competencies are undertaken for positions that have a safety or security function.

- Rescue teams leaders and builders should ensure selection processes result in a suitably qualified and experienced person to perform in the given position.

- Rescue teams leaders and builders should ensure that succession plans are in place for all positions having a significant safety or security function.

# Grade B

### The provision of appropriate training

- Rescue teams leaders and builders should demonstrate that, where relevant, training covers weaknesses and strengths of human performance.

- Rescue teams leaders and builders should ensure that training programs are developed in consultation with suitably qualified and experienced persons.

# Grade C

**Human factors tailored technology**

- Rescue teams leaders and builders should ensure that equipment is designed ergonomically.
- Rescue teams leaders and builders should ensure that equipment is human error tolerant and/or human error evident.

# Grade D

**Human factors sensitive processes**

- Rescue teams leaders and builders should ensure that processes are designed to take account of human factors.
- Rescue teams leaders and builders should always strive to review and, where necessary, optimize processes to make human work safer.

# Grade E

## Human factors sensitive operational environment

- Rescue teams leaders and builders should ensure that the operational environments are regularly reviewed and optimised for the safety and security of actions being undertaken.
- Rescue teams leaders and builders should ensure that human factors relevant to safety and security in emergency situations are taken into account when designing or modifying any work area.

Soft skills in disaster preparedness and relief

# Section 3 — Soft Skills

A safe rescue team will possess and utilize effective soft skills

**Clarification and Rationale**

Soft skills, probably better known as non-technical skills, are the cognitive, social and personal resource skills that complement technical skills, and contribute to safe and efficient task performance. The *grades* below aim to provide elements to assess rescue teams members soft skills. Disaster investigations invariably demonstrate a failure in one or more of the following *grades*. In order to apply technical skills effectively, staff need to apply soft (non-technical) skills. Good communication, leadership, team-working, decision-making and situation awareness are necessary for staff to apply technical skills effectively. Thus improving soft skills optimizes and complements technical skills.

# Grade A

## Communication

Communication is the exchange of information, feedback or response, ideas and feelings. It provides knowledge, institutes relationships,

establishes predictable behavior patterns, maintains attention to the task, and is a management tool

- Rescue teams leaders and builders should ensure that the dangers from inadequate communication are made clear and avoided.
- Rescue teams leaders and builders should ensure that rescue team members understand communication methods and types, and the weaknesses and strengths of the different methods of communication.
- Rescue teams leaders and builders should equip staff with the necessary skills and competencies to communicate effectively.
- Rescue teams leaders and builders should assess their personnel competence in communication and provide extra training where necessary.

# Grade B

## Leadership

Leadership refers to the personal qualities, behaviors, styles and strategies adopted by the team leaders that guide and support the other team members, and influences how and whether a team achieves its objective. The team leaders also influence motives, values and behavioral standards of the team

- Rescue teams leaders and builders should equip leaders with the knowledge of how leadership can contribute to good or bad safety and security outcomes.
- Rescue teams leaders and builders should equip staff with the necessary skills and competencies of leadership for safety and security.

# Grade C

## Team-working

Team working is a distinguishable group of two or more people who interact, dynamically, interdependently, and adaptively toward a common and valued goal/objective/mission

- Rescue teams leaders and builders should ensure that the risks of inadequate team-working and benefits of effective team-working for enhancing safety and security are made clear.
- Rescue teams leaders and builders should ensure that rescue team members understand the positive and negative individual and team attributes that affect team-working.
- Rescue teams leaders and builders should equip staff with the necessary skills and competencies to work effectively in a team.
- Rescue teams leaders and builders should assess their personnel competence in team-working and provide extra training where necessary.

# Grade D

## Decision-making

Decision making is "the process of reaching judgment or choosing an option, sometimes called a course of action, to meet the needs of a given situation" . They are not pre- planned decisions previously established in procedures and instructions but spontaneous decisions related to operations and made by personnel and management under pressure

- Rescue teams leaders and builders should equip their staff with knowledge on how human decision-making can contribute to good or bad outcomes.

- Rescue teams leaders and builders should ensure rescue team members understand the different types of decision-making tools and processes, their weaknesses and strengths and external factors that can affect decision making.

- Rescue teams leaders and builders should develop training programs that assist good decision-making.

# Grade E

## Situation awareness

Situation Awareness is the cognitive process for building and maintaining awareness of a workplace situation or event knowing what is going on around you. The personal ability to take in and process any information within a given situation or time.

- Rescue teams leaders and builders should equip their staff with knowledge of how situation awareness can contribute to good or bad outcomes.
- Rescue teams leaders and builders should ensure training covers the basic principles in situation awareness, how situation awareness can be impaired, and factors that affect it.
- Rescue teams leaders and builders should develop training programs that assist effective situation awareness.

# Section 4 —Resilience skills

A safe rescue team will build or engineer resilience into the system

**Clarification and Rationale**

Resilience engineering is the intrinsic ability of a system to adjust its functioning prior to, during, or following changes and disturbances so that it can sustain required operational safety and security under both expected and unexpected conditions. The application of resilience engineering principles can also assist in the management of entirely unexpected conditions as it leads to improved understanding of system behavior within an organization and of potential intervention methods. Rescue teams leaders and builders should address and apply the principles of resilience into their systems and operations to ensure safety and security is maintained under both expected and unexpected conditions.

# Grade A

## To respond

- Rescue teams leaders and builders should undertake analysis of their system's design and operation to identify any credible deviations that may lead (immediately or via cascading error) to an increased risk or loss of effective control.

- Rescue teams leaders and builders should regularly review their identification of any credible deviations taking account of operational experience within their own organization.

- Rescue teams leaders and builders should equip their systems and staff with the capability to respond to any deviations (identified and unidentified) and resume optimal operational safety and security.

- Rescue teams leaders and builders should ensure response capability and readiness is maintained.

# Grade B

**To monitor**

- Rescue teams leaders and builders should have a list of relevant indicators to monitor system status and performance.
- Rescue teams leaders and builders should ensure that arrangements are in place so that indicators are closely monitored, validated and accountabilities are established.

- Rescue teams leaders and builders should ensure there is a clear basis that determines when the list of indicators is revised.
- Rescue teams leaders and builders should ensure monitoring facilitates response in a timely manner.

# Grade C

## To anticipate

- Rescue teams leaders and builders should ensure systems and arrangements are in place to identify future safety and security challenges that may arise.
- Rescue teams leaders and builders should ensure the identification of future safety and security challenges is conducted on a regular basis, and communicated, shared and disseminated within the organization.

# Grade D

## To learn

- Rescue teams leaders and builders should ensure there are clear principles behind which deviation from normal operation (including near-misses) are investigated.
- Rescue teams leaders and builders should strive to improve safety and security by learning lessons from what goes well and what goes badly.

- Rescue teams leaders and builders should ensure they have sufficient and continuous resources to facilitate data collection, analysis and learning from operational experience.
- Rescue teams leaders and builders should ensure learning from operational experience is effective, timely, continuous, and maintained at all organizational levels and across organizational boundaries and demonstrate learning is effective and occurs at the individual as well as the organizational level.

# Section 5 — The Holistic approach to safety

A safe organization will, at all levels, possess shared values and beliefs for safety that produce behavioral norms that provide an appropriate and demonstrable attention to safety

**Clarification and Rationale**

Safety Culture interacts with an organization's structures and control systems to produce behavioral norms. It is the core values, beliefs and behaviors resulting from a collective commitment by leaders and individuals throughout an organization that appropriately prioritize safety against other organizational goals to allow business objectives to be undertaken without undue risk. Organizations with a positive safety culture are characterized by communications founded on mutual trust, by shared perceptions of importance of safety and by confidence in the efficacy of preventative measure. The *grades* below aim to assist rescue teams leaders and builders in their assessment of safety culture.

# Grade A

## Safety and security are strongly supported values

Documentation, communications and decision making demonstrates a high priority is given to safety and security.

Safety and security are a primary consideration in the allocation of

resources.

A proactive and long term approach to safety and security issues is shown in decision making.

Individuals are convinced that safety and production go hand in hand.

Safety and security conscious behavior is socially accepted and supported (both formally and informally).

# Grade B

**Leadership for safety and security is supported and accepted**

Senior management should demonstrate real commitment to safety and security as a core value.

Leadership should provide informed questioning and strong oversight for safety and security, and clearly and visibly support conservative decision-making.

Leaders should recognize the potential for conflicts between safety and security and foster an approach that integrates safety and security in a

mutually supporting manner.

Leaders must be seen to always model safe and secure behaviors.

Commitment to safety and security is evident at all levels of management.

Management involvement in safety and security related activities is demonstrated.

Management seeks the active involvement of individuals in improving safety and security.

Management shows a continual effort to strive for openness and good communication throughout the rescue team (vertically and horizontally) whilst being mindful of the need to maintain appropriate security practices (i.e. the need to know principle).

Management is receptive and seeks out operational information (good and bad news).

Relationships between managers and individuals are built on trust.

Management has the ability to resolve conflicts as necessary.

Management welcomes constructive criticism from both internal and external sources.

Leadership recognizes, and where practicable, take into consideration any synergies between safety and security but also consider potential conflicting requirements, when implementing measures to improve safety and security outcomes.

# Grade C

## Accountability for safety and security

It acknowledged that the ultimate responsibility for safety and security lies with the rescue team leader and/or builder (depending on the phase)

Ownership for safety and security is evident at all organizational levels and for all individuals.

Roles, responsibilities and accountabilities for safety and security are

clearly defined and understood at all levels.

There is a high level of compliance with procedures and instructions.

Where there is deviation from procedures, the deviations are reported, risks are assessed and procedures updated, where appropriate, in a timely manner.

# Grade D

## Safety and security is integrated into all activities

Consideration of all types of safety, including facility safety and environmental safety, and of security is evident in all activities.

High standards of documentation, procedures and instructions are maintained throughout the rescue team.

Individuals have the necessary knowledge and understanding of the work processes.

Factors affecting work motivation and job satisfaction are given due consideration.

Good working conditions exist with regard to time pressures, workload and stress.

There is cross-functional and interdisciplinary cooperation and teamwork.

# Grade E

## Safety and security is learning driven

A questioning attitude prevails at all levels.

Normalization of, or complacency about, risks is prevented.

Open reporting of deviations and errors is encouraged.

Internal self-assessments and where appropriate, external assessments, are used.

Organizational experience and operating experience (both internal and external to the facility) are used.

Learning is facilitated through the ability to recognize and define

deviations, to formulate and implement solutions, and to monitor the effects of corrective actions in a timely manner to facilitate a cycle of continuous improvement.

Safety and security performance indicators are developed, tracked, trended, evaluated and acted upon.

There is systematic development of individual competences which take account of developing operational knowledge and experience.

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