

Briefing Outline:

Safety Representation in the Federal Fire Services

A discussion of attitudes that pose potential risks to operational safety

Conducted for:
The Federal Fire and Aviation Safety Team (FFAST)
National Interagency Fire Center
Boise, ID

11/20/2003

Crewmember Attitudes Questionnaire (CAQ)

Crewmember Attitudes Questionnaire (CAQ)

- ◆ Based on the FMAQ from the University of Texas Aerospace Crew Research Project - Merritt, A. C., Helmreich, R. L., Wilhelm, J. A. 1996
 - ◆ Based in earlier work by Dr. Geert Hofstead
 - ◆ 30,000 pilot respondents worldwide
 - ◆ Also used with maritime and medical fields
- ◆ 80 Questions – subset used for indices (0-100 score)
 - ◆ Organizational Climate
 - ◆ Culture of Safety
 - ◆ Attitudes About Management
 - ◆ Perceptions of Teamwork
 - ◆ Human Performance Awareness

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CAQ Phases

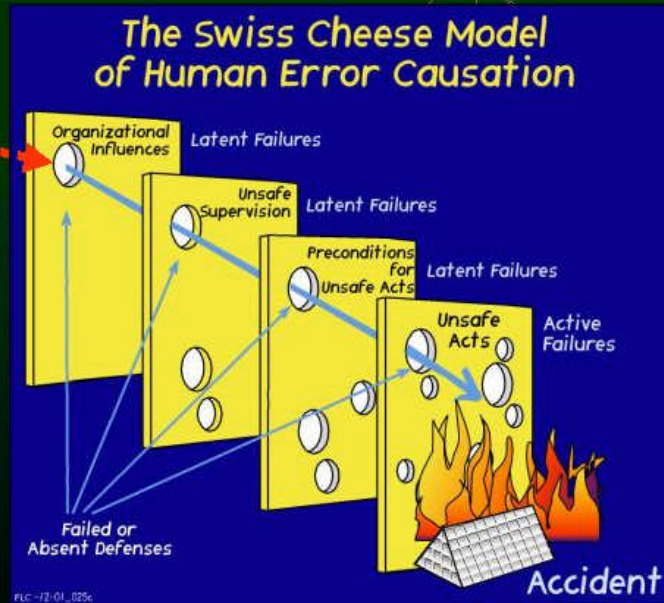
- ◆ **Phase I – Collection on pre-training groups**
 - ◆ Detect changes in baselines and subgroups
 - ◆ Assist with the development and evolution of training that centered on improving crew effectiveness and safety (Leadership, HF, CRM, etc.)
 - ◆ Assist instructors
- ◆ **Phase II – Post-training evaluation**
 - ◆ Evaluate training/intervention effectiveness
 - ◆ Assist with studying sub group populations of firefighters

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Organizational Weaknesses

Phase I study detected potential weaknesses at the organizational level:

- ◆ Safety Culture
- ◆ Teamwork
- ◆ Human Factors



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Perspective



- ◆ Even with the weaknesses, the CAQ scores are robust.
- ◆ *Industry ranks as one of the top studied with the CMAQ/FMAQ/CAQ device.*
- ◆ *The lowest wildland fire Safety Culture score is HIGHER than the highest commercial airline studied in previous research.*

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Safety Culture

Safety Culture

- ▶ Perception of organization's culture of safety
- ▶ Perceptions about the ease of communication up the chain of command
- ▶ Supervisor availability
- ▶ Satisfaction with agency management
- ▶ Satisfaction with incident management



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Safety Items – lowest scoring items

- ◆ Perception of management - approachability and caring*
- ◆ Trust in incident management teams*
- ◆ Perception of safety officers

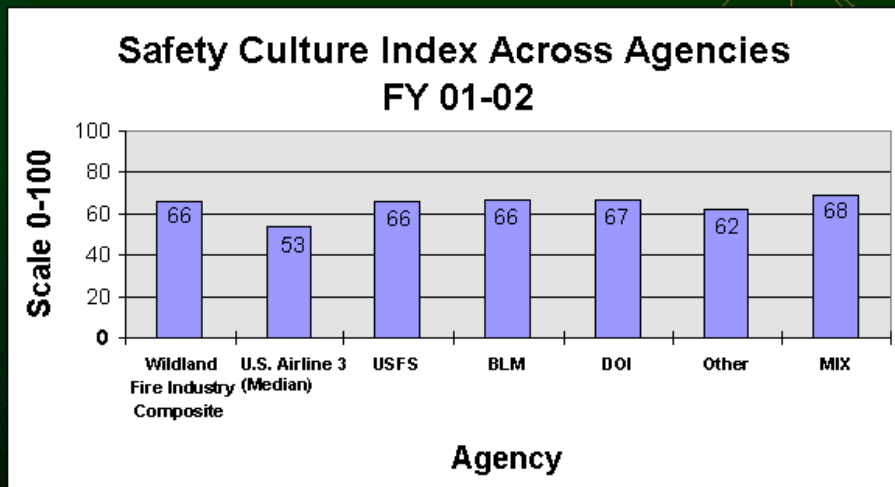


* items included on the safety culture index

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General Safety Culture



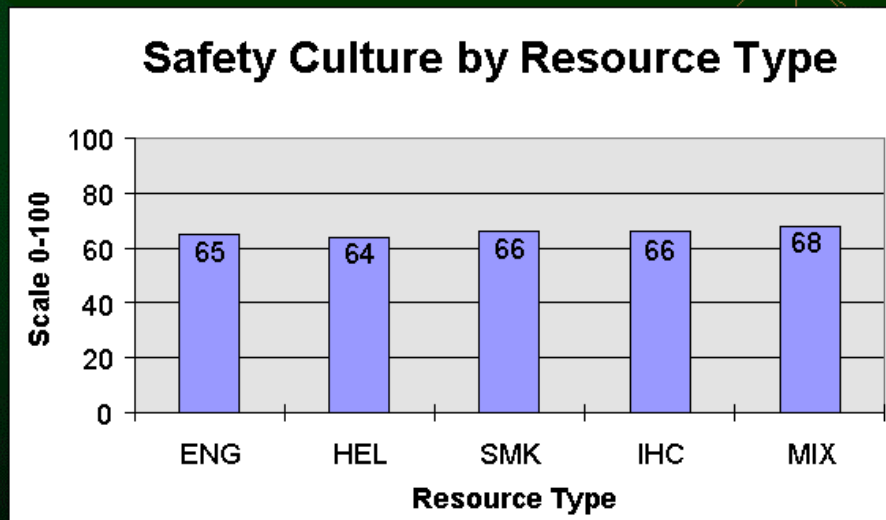
Commercial airlines range: 34 – 63 (53 median)

U.S. federal fire agencies range: 66 – 67 (66 median)

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General Safety Culture



Distribution by crew type: 64 - 68

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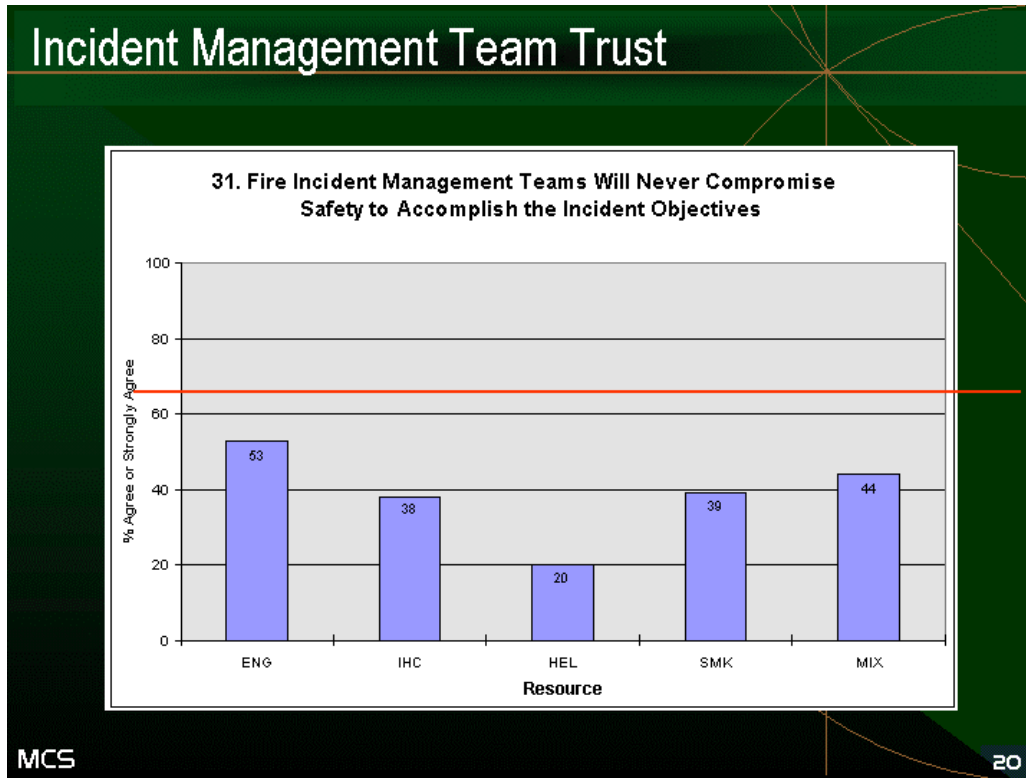
Findings

- ◆ *The “structure” of fire safety is well accepted (80-90%).*
- ◆ *The “implementation” of safety by fire leadership representatives is not well accepted (40-50%).*
- ◆ *Safety officer effectiveness is questionable (but possibly improving!)*



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Incident Management Team Trust



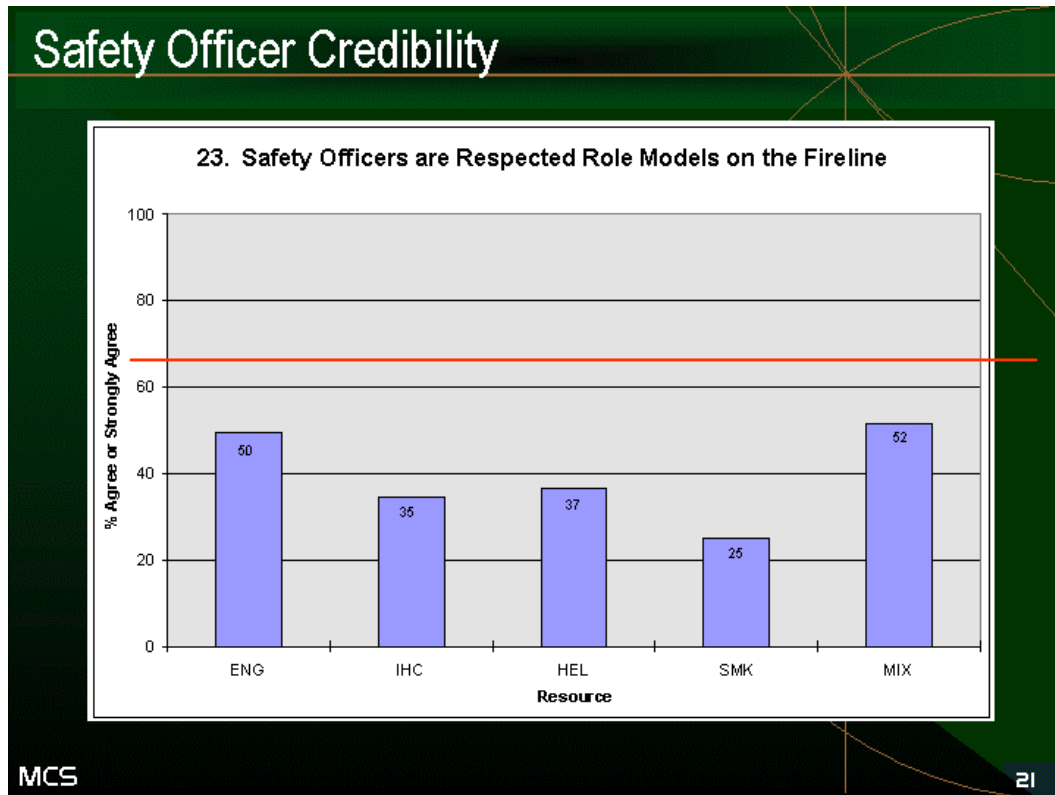
Findings:

- More than 50% of respondents felt that IMTs would be willing to compromise safety to obtain incident objectives.
- Attitude more prevalent in aviation (helicopter)-based resource types.
- The implementation and application of risk management tools vs. safety protocols is not operationally delineated in the minds of the respondents. This separation is not clearly evident in guiding doctrine. This condition makes safety a subjective discussion in the absence of measurable conditions.
- Operations personnel are not uniformly or consistently using risk management tools and processes, and are not engaging fielded resources effectively in the decision making process.

Factors/Complications:

- Data collected in FY02 prior to the implementation of the Thirtymile directives.
- Question wording may be too absolute.
- Inconsistency in crew capability, operational comfort and familiarity can result in improper or potentially dangerous assignments being dealt out. IMTs may not be able to accurately assess true crew capability or limits.

Safety Officers



Findings:

- Reasons for poor credibility fall into three primary categories:
 1. Poor interface skills: poor communication styles, ineffective job attitude, poor “presence” (look, posture, etc.), not seen in operations conducted in difficult terrain/access
 2. Compliance vs. consulting focus – paying attention to the “wrong” things in the eyes of the operators. This includes providing ineffective safety briefings or messages.
 3. Unqualified: insufficient operational background to assess viability or safety of planned or ongoing fire operations (non-fire background). Unable to provide a credible sounding board for operators.
- Credibility seems to fall with typically more remote resource types (IHC and SMK), supporting claim that lack of exposure is some of the reason for these attitudes.
- Safety officer training is focused on the technical requirements of compliance duties. Consultant, communications, leading from the side, questioning, etc. are not trained specifically. Safety officers are not trained specifically to use non-coercive techniques, or to address the leadership roles and responsibilities of the SO position.
- Safety officer capability and effectiveness vary widely in the system, and even between individuals on the same team.
- This is not “news” – situation has been reported to MCS since 1996.

Factors/Complications:

- Safety officers are widely distributed and too few in numbers
- Training for SOs should be based in a global philosophy of safety and how the safety organization is supposed to work within and outside the fire organizations it serves. The vision, purpose and methods of the safety organization should be articulated before training can be focused.

Questions:

- Q1: Is the primary role of the fire safety organization to educate and assure compliance with existing rules and policies, or to act in a preemptive consultative role? If both, how are those roles defined and delineated in the SO job description, and how are these roles trained?
- Q2: Should the safety organization delineate between risk management and safety compliance formally, and develop a message about where each is expected to be used?
- Q3: What should be the primary qualifications for the fire safety officer? The unit safety officer? Is there a difference in qualifications, depending upon what operations they are monitoring?
- Q4: Is there an argument for making more than a one position?
- Q5: What should be the role of the safety organization in certifying and setting standards for SOs?
- Q6: What are effective measurements that can be taken to determine if the SO program is working, or if there are problems?
- Q7: What should the future safety organization look like, and what should be its mission?