

Human Factors, Just Culture, and a Systematic Approach to Safety

Melissa Warhol, Safety Director, MN-DNR
Dana Dickson, Safety Administrator, MN-DOC

Can We Punish Away Human Error?

“You didn’t intend to make that mistake and didn’t understand the consequences, so I am going to punish you so the next time you don’t intend to do something you won’t do it!”

Dan McCune

High-Reliability Organizations (HRO)

Characteristics

Focused on the primary task,
i.e. flying the plane, operating the power plant,
securing offenders

(Human Error: models and management, Reason, 2000)

Two Approaches

The **system approach** concentrates on the conditions under which individuals work and tries to build defenses to avert errors or mitigate their effects

The **person approach** focuses on the errors of individuals, blaming them for forgetfulness, inattention, or moral weakness

(Human Error: Models and Management, James Reason, 2000)

Systems Safety Approach

System safety recognizes multiple causation

- management contribution
- environment contribution
- employee contribution

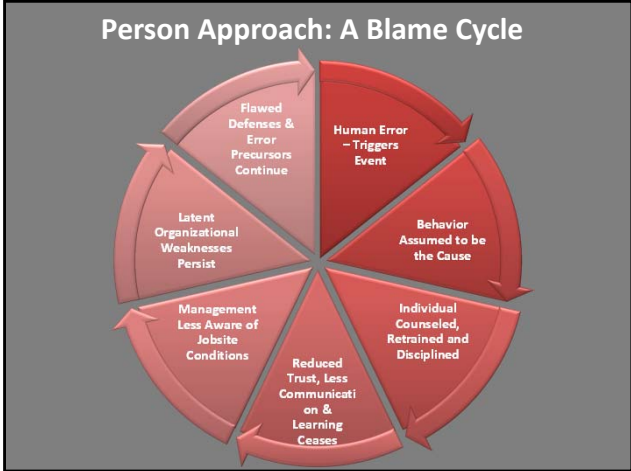
Accident Investigation

The Swiss Cheese model by James Reason

Losses (Accident)

Hazards

Totality of Circumstances – the pieces of cheese are moving and the holes change size, shape and location.



“The Dirty Dozen”

12 Human Factors that contribute to accidents.

With examples of countermeasures designed to prevent ANY human error.

1. Lack of Communication

Remedy:
logbooks,
worksheets,
and checklists



Crew Resource Management (CRM)

- Opening or attention getter
- State your concern
- State the problem as you see it
- State a solution
- Obtain agreement (or buy-in)

2. Complacency



"To be complacent is to close the mind, rest on yesterday's progress and refuse to improve. The complacent person is satisfied. Dangerously so." Jeff Noble

Complacency Remedy:

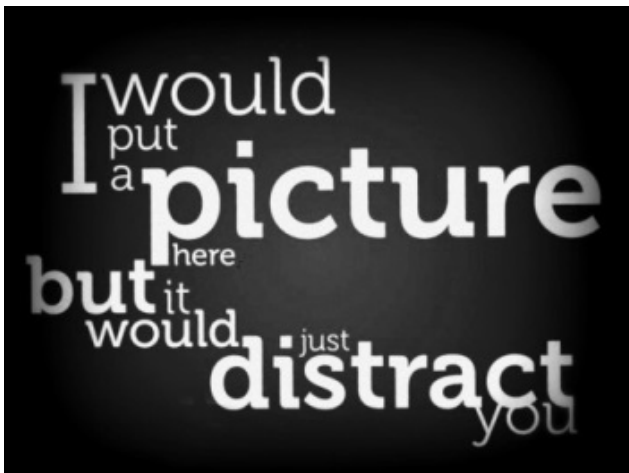
- Stimulation.
- Always expect to find a fault!
- Following written instructions.
- **Adhering to procedures.**
- **Avoid working from memory.**
- **Don't assume!**
- **Teamwork and cross-checking.**

3. Lack of Knowledge



Lack of Knowledge Remedy:

- Continuing professional development.
- Experienced workers to share their knowledge with colleagues.
- Include human error and performance training.
- Encourage questions.
- **Adhering to procedures.**
- **Avoid working from memory.**
- **Don't assume!**
- **Teamwork and cross-checking.**



Distractions Remedy:

- Complete a task before responding.
- Re-trace some steps before picking up the task again.
- Create "safety zones", "circles of safety" or "do not disturb areas" around workers engaged in critical tasks.
- **Adhering to procedures.**
- **Avoid working from memory.**
- **Don't assume!**
- **Teamwork and cross-checking.**

TEAMWORK

5. Lack of Teamwork

Remedy:

Discuss, clarify, agree, and understand by all team members:

- Goal
- Roles and responsibilities
- Communication
- Limitations and boundaries
- Emergency procedures
- Expectations
- Defines a successful outcome
- Debriefing

6. Fatigue**Fatigue Remedy:**

- Regular sleep, healthy diet (including reduced use of alcohol and other drugs), and exercise.
- **Adhering to procedures.**
- **Avoid working from memory.**
- **Don't assume!**
- **Teamwork and cross-checking.**

7. Lack of Resources

Lack of Resources Remedy:

- Proper resources = more effective, correct and efficient.
- Planning to acquire, store and locate resources.
- Maintain the current resources.

8. Pressure



9. Lack of Assertiveness

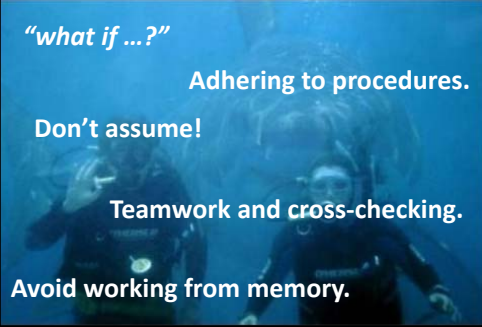


- Communicating directly
- Honestly and appropriately
- Respect others opinions

10.




11. Lack of Awareness



"what if ...?"

Adhering to procedures.
 Don't assume!
 Teamwork and cross-checking.
 Avoid working from memory.

12. Norms



"The way we do things round here"

Force of habit

"Drift"

Assertiveness
 Adhering to procedures.
 Teamwork and cross-checking.

The "Dirty Dozen"

- Lack of Communication
- Complacency
- Lack of Knowledge
- Distractions
- Lack of Teamwork
- Fatigue
- Lack of Resources
- Pressure
- Lack of Assertiveness
- Stress
- Lack of Awareness
- Norms

COMMANALITY!
 Adhering to procedures.
 Avoid working from memory.
 Don't assume!
 Teamwork and cross-checking.

Trust

Trust is a key element that requires the existence of a Just Culture

A collective understanding of where the line should be drawn between blameless and blameworthy actions.

Engineering a Just Culture is an essential early step in creating a Safe Culture.

BMJ Volume 320 Human error: models and management, James Reason

Just Culture

Human error is inevitable and the system needs to be continually monitored and improved to accommodate those errors.

Individuals are accountable for their actions if they knowingly violate safety procedures or policies.

Just Culture

Benefits

- Increased Reporting
- Trust Building
- More effective safety and operational management

Just Culture = World Class Safety

- “Zero” anything is a tough number to reach in safety
- “Zero Harm” is the Goal
- World Class Safety focuses on the Safety System
- World Class Safety is the process of continuous improvement
 - Leadership, Education, Engagement, Empowerment, Accountability, etc.
 - Plan, Do, Check, and Act

Where Do We Go From Here?

- Consider your organization as high reliability.
- People make mistakes.
- We cannot change the human condition.
- We can change the cultural and physical conditions under which people work.
- Accident review and corrective actions should identify the conditions that can be changed to avoid similar incidents in the future.
- Establish “Trust” throughout the organization
- Development of a “Just Culture”
- Promote a pro-active approach to safety

Resources

Search for “Just Culture” or “Human Factors”
Authors: James Reason, Sidney Decker, David
Marx, Dan Petersen

THANK YOU!