

# Management or Safety Management?

## Predicting the Fatal Flaws

RAeS HFG

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# Management or Safety Management?

- What is Safety Management?
  - Importance?
  - Scope?
- Why is it a challenge?
  - Integration?
  - Relevance?
- Where has the current focus come from?
- What's the challenge in terms of making it work?
- What's the underlying objective?
- How does it link to risk management?





“The safety case was a lamentable job from start to finish... a story of incompetence, complacency and cynicism”

“Organisational causes played a major part... adversely affected the ability of the IPT to do its job...”

“Primary focus... delivering change... Airworthiness was a victim...”

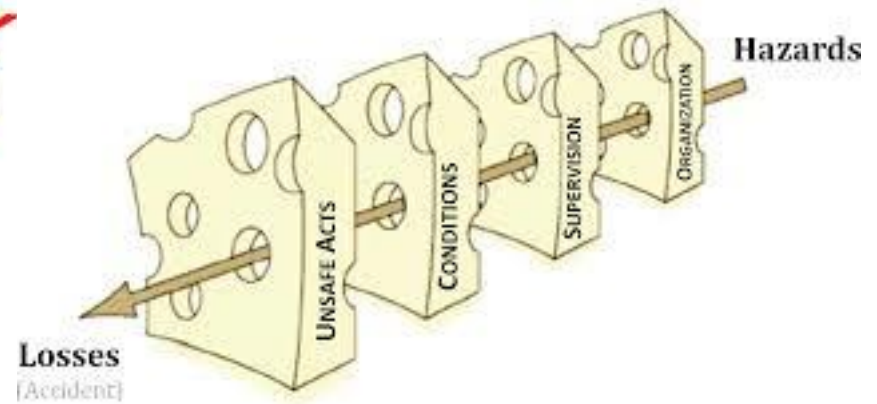
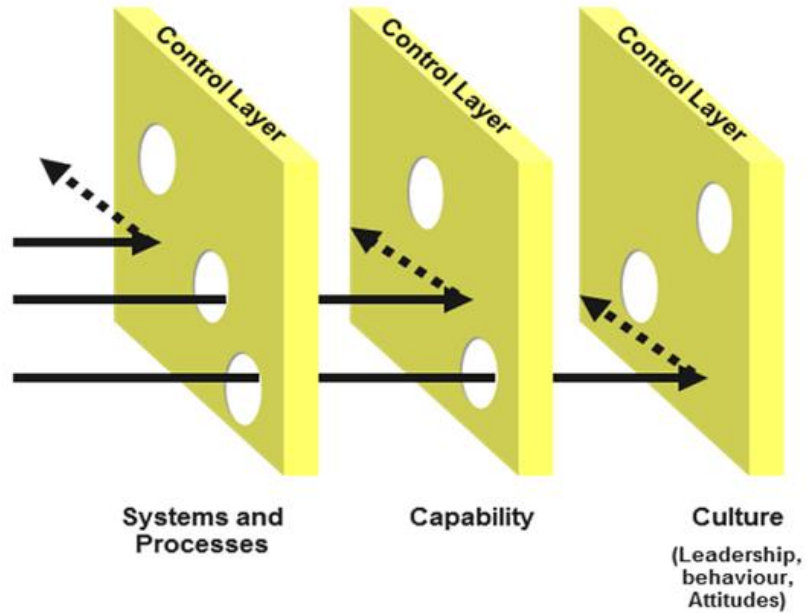


### The Swiss Cheese Model



Hazards / risks

James Reason (1990). *Human Error*. Cambridge University Press.



# One View...

- CAP 795:
  - SMS is a proactive integrated approach to safety
    - Safety Policy and Objectives
    - Safety Risk Management
    - Safety Assurance
    - Safety Procedures
  - Risk management is at the core
    - Hazard identification
    - Risk assessment and mitigation – eliminate or mitigate risk to an acceptable level
    - Risk tolerability matrix
- Why is it all so difficult?
- ‘Conflict’ between safety and operations?



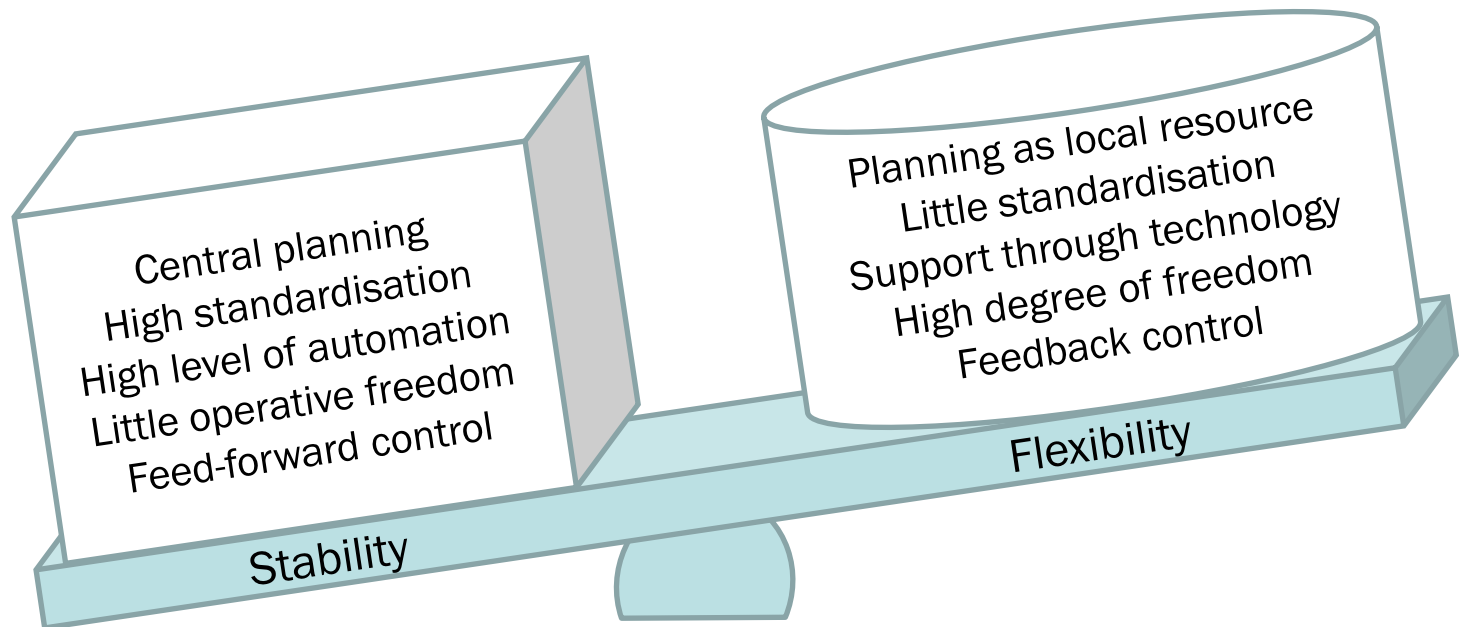
# What are we trying to achieve?

- Manage risk
- Hierarchy of control...
- Perceived uncertainty, and flexibility, sits with human performance
- Managing safety is about...
  - Understanding the human within the system
  - Understanding behaviour
  - Supporting desirable behaviours
- Arrangements must be:
  - Flexible
  - Resilient
  - Adaptive
  - Responsive



# Balance

- Move from coping with uncertainty to managing uncertainty





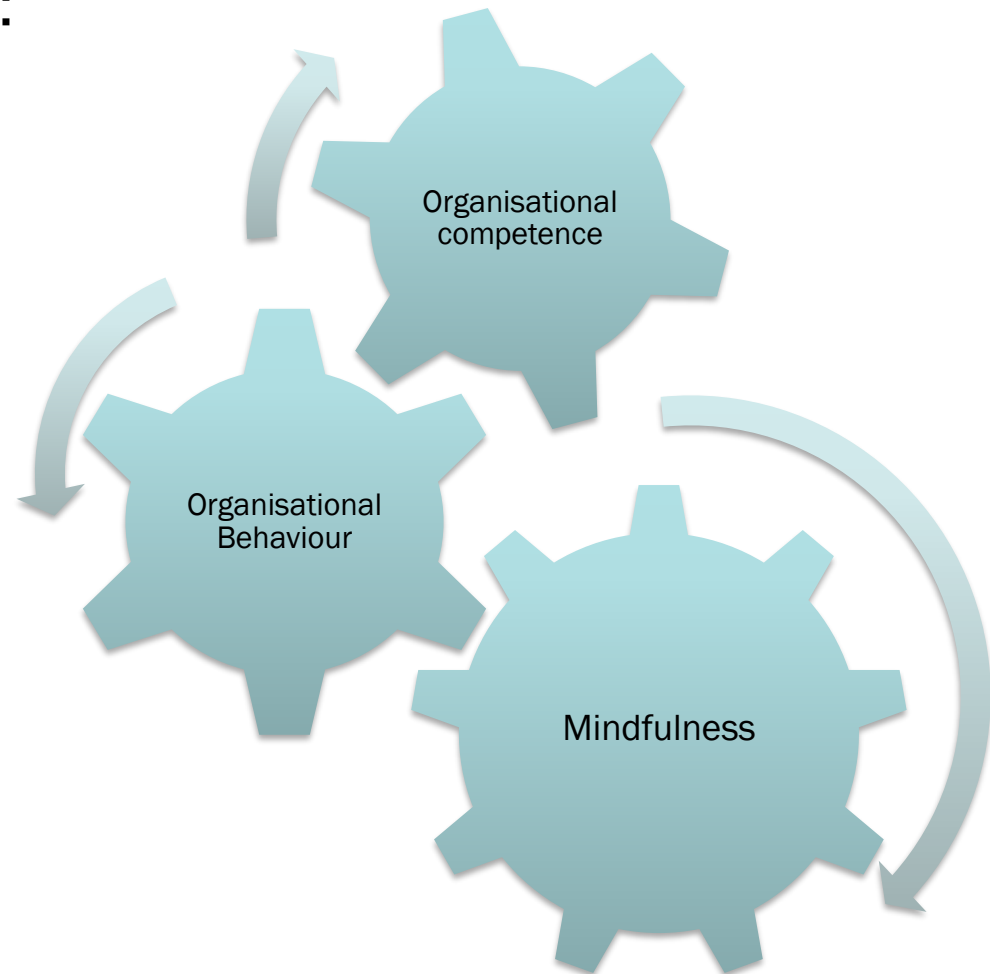
# Good Management?

- Negative examples:

- Texas City
- Deepwater Horizon
- VW
- Mid-Staffs Hospital
- Kids Company...

- Positive examples:

- John Lewis?
- Volvo?
- London Olympics
- ??



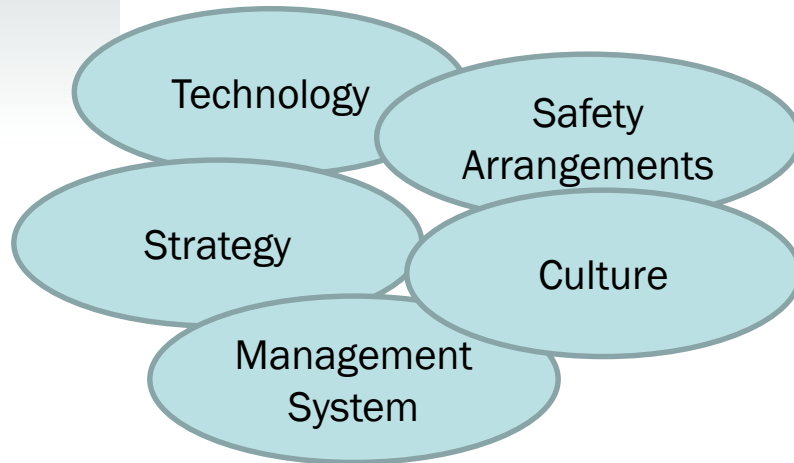
# Defining L&MfS

- ONR SAPs provide a view:
  - MS1: Directors, managers and leaders... should focus the organisation on achieving and sustaining high standards of safety and... a high reliability organisation
  - MS2: The organisation should have the capability to secure and maintain the safety of its undertakings
  - MS3: Decisions made at all levels... affecting safety should be informed, rational, objective, transparent and prudent
  - MS4: Lessons should be learned from internal and external sources to continually improve leadership, organisational capability, the management system, safety decision-making and safety performance.

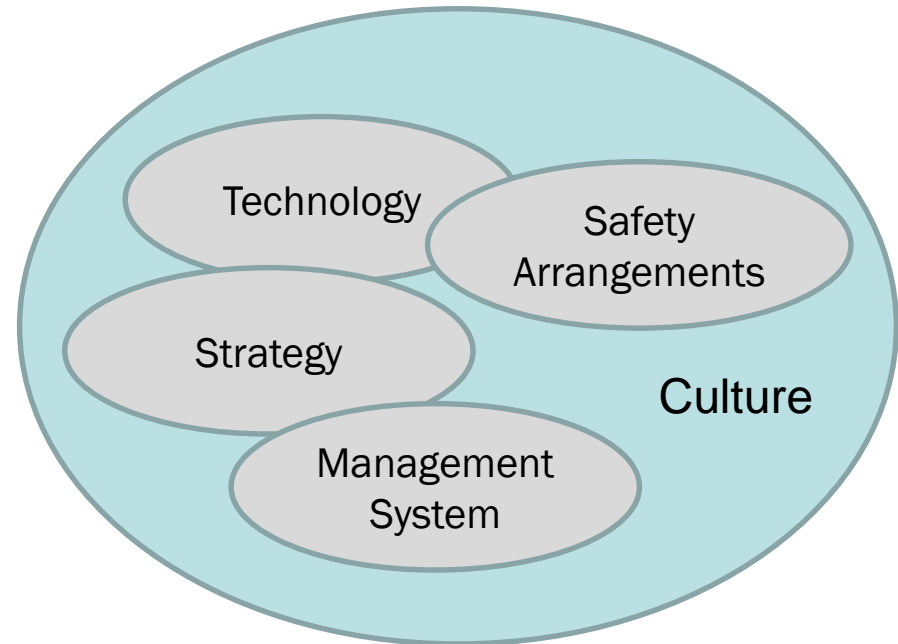


# Culture – where does it fit?

- Used to explain the organisational influences on safety



Variable Approach  
Organisations have 'cultures'



Metaphor Approach  
Organisations 'are' cultures

# Why is L&MfS important?

- Safety Arrangements make claims on human actions:
  - Competence; Procedures; Assurance; Maintenance...
- We know a lot about human behaviour
- No team (or individual) operates in isolation – they're part of a socio-technical system
- Safety arrangements must explicitly address human performance and the factors that affect it
- Currently we compartmentalise safety and treat it as something separate



# Current Focus

- Safety is separate from Operations/Quality
- Oriented towards ‘safety case’ claims but:
  - Focus on the behaviour of individuals
  - Acknowledges SMS but tends to be technically-oriented
- Risk assessment tends to be compartmentalised
- But major accidents tend to implicate management of safety
- What should treatment of L&MfS look like?
  - Start from the ‘claims’
  - Make those claims explicit
  - Look at which parts of the system influence human performance and exercise control over those influences



# Systems...

- Hosting.com said human error was responsible for a data center power outage that left more than 1,100 customers without service... ..as the company was conducting preventive maintenance on a UPS system in their data center in Newark, Del.
- “An incorrect breaker operation sequence executed by the servicing vendor caused a shutdown of the UPS plant resulting in loss of critical power to one data center suite within the facility,” said Hosting.com CEO Art Zeile. “**This was not a failure of any critical power system or backup power system and is entirely a result of human error.**”
- “We have shared our sincere apologies... Our operations team has taken serious **corrective action to minimize and/or eliminate the possibility of this kind of human error** while carrying out routine operations.”



# Systems...

## 'Human error' behind American Airlines' seat problems

- American Airlines said that improperly installed clamps caused seats to pop loose on two planes during flights and an inspection turned up four others with the same problem. In the past week, rows of seats have come loose on three separate flights, two of which made emergency landings.
- David L. Campbell, the airline's vice president of safety, said new seats on some of American's 757s **have a different fastening system** - instead of four bolts that are wrench-tightened, they are held in place by two bolts in back that are tightened with wrenches and two in front that are hand-tightened. **The seats must be positioned precisely** so that they lock into place.
- **"It's a very temperamental job,"** he said.



# What does 'good' look like?

- ONR Themes
  - Leadership
  - Capable Organisation
  - Decision-making
  - Learning
- But how assess/enhance?
- What is 'good practice'?
  - SDF Guidance
  - EASA/CAA etc
  - WANO/INPO/IAEA guidance
  - CQC comments
  - etc





# CQC

- “State of Health Care in England”
  - Shared ownership of quality and safety
  - Effective engagement
  - Visible and accessible
  - ‘Fit and proper person’
  - Learning
  - Governance processes that support openness
  - Developing staff
- Correlation with ‘good’ leadership
- Doesn’t establish causal links between observed leadership behaviours and organisational performance
- E/HF is (should be) about organisational performance



# What does L&MfS tend to look like?

## Recognised value

- high-priority shown
- primary consideration in allocation of resources
- Strategic business importance recognised
- Individuals convinced safety and production go together
- Proactive and long-term approach in decision-making
- Safety-conscious behaviour is socially accepted & supported

## Clear accountability

- Clear roles and responsibilities
- High levels of compliance
- Ownership evident at all levels

## Integration

- Trust permeates organisation
- Considers all types of safety
- Quality of processes and docs is high
- Motivation and job-satisfaction considered
- Teamwork

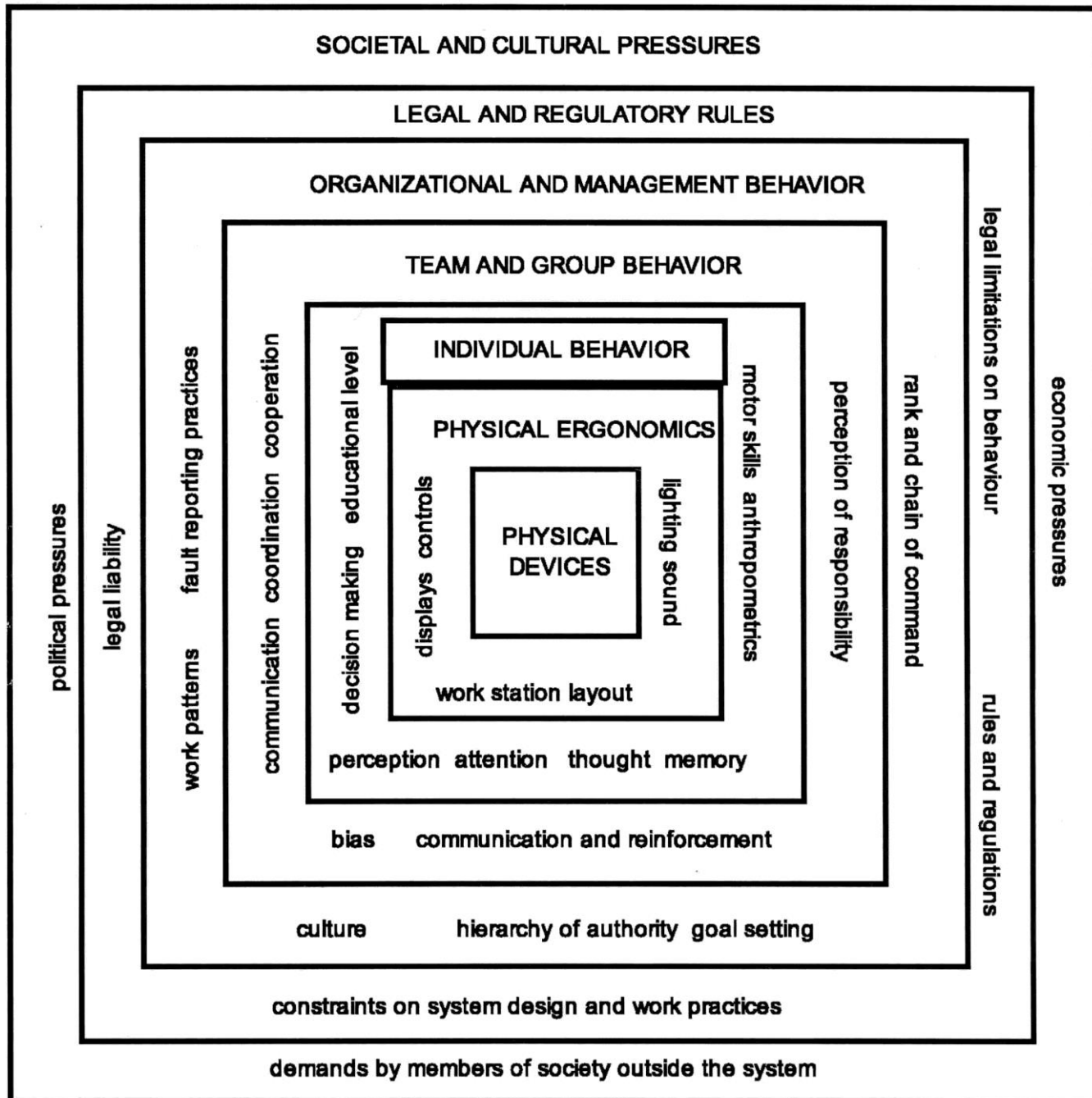
## Learning

- Questioning attitude
- Open reporting encouraged
- Experience gathered & used
- Organisation changes in response to experience
- KPIs tracked
- Competence development

## Leadership

- Clear commitment at all mgmt levels
- Visible leadership
- Leadership skills
- Relationships built on trust
- Effective change management





# L&MfS as a part of being safe

- Cannot fully understand L&MfS unless adopt an E/HF perspective – ie focused on human performance within a complex socio-technical system – not on ‘having the right arrangements’
- Understand human behaviour and link to organisational performance
- Leadership should be considered from the perspective of safety claims on people – how do leadership behaviours contribute?
- We’re not trying to take over the world (yet)  
– its about providing a mechanism to ensure an effective L&MfS process



# A way forward?

- Don't throw away SMS – use it as a springboard
- Don't integrate it with the management system – make it the management system. What would that look like?
- SMS and QMS are two sides of same coin
- Off-the-shelf guidance is just that – guidance
- Leaders are concerned with safety and performance – so is everyone else
- Risk management is part of everyone's role
- Risk assessment, and management, needs to consider the entire system
- Focus on the role of the person rather than on what they do



# Direction?

- We need to stop compartmentalising ‘safety’ and ‘quality/operations’
- We need to look at the contribution of the person to system performance
- We need to focus on optimising that performance
- Risk assessment needs to be holistic
- We need to ensure that we understand how people contribute to the performance of the system – in all respects. And what affects that performance.



Appreciation Strategy Humility  
Commitment Responsibility Listening  
**Leadership**  
Integrity Honest Communication  
Values Purpose Determination  
Passion Principles

EXPLOSIVE STORES  
OCCUR HAZARDOUS SUBSTANCES  
HAZARDS  
DISASTER  
CONTROLLED  
BOOK  
REQUIREMENTS  
POTENTIAL  
COMPLY  
FOCUSED  
GUIDANCE  
INCIDENT  
RELEASE  
MANAGEMENT  
INVOLVED  
TOXIC  
PREVENTING  
TURN  
EXCELLENT  
PROGRAM  
SEVERITY  
AMMONIA  
POSSIBILITY  
REACTIVE  
PROPERLY  
STORAGE  
IDENTIFYING  
WORKPLACES  
MODEL



# 'Minor' accidents...

