

# Fulmination 2022

## Factors Promoting A Positive Safety Culture

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**Managing Director (Retired)**  
**Roxel (UK Rocket Motors) Limited**

**6<sup>th</sup> April 2022**



- **What The Experts Say**
- **Critical Enablers: Leadership and Strong Teams**
- **Roxel Experience & Continuous Improvement**
- **Personal Reflections**

## Safety Culture Definitions - Informal

- **“The way things get done around here”**
  - Deal TE & Kennedy AA, **Corporate Cultures: The rites & rituals of corporate life**, Addison Wesley, 1982
  
- **“We define culture as the unwritten standards & norms that shape mind-sets, attitudes & behaviours”**
  - Tillerson, R. Exxonmobil speech, 2010
  
- **And what it isn't.....**

**A strong Safety Culture is not in itself an absolute guarantee against incidents, but it is a barrier against the complacency, omissions and violations which are so commonly listed in incident reports as causal factors. A Management System that is not backed-up by a positive Safety Culture might not give the desired outcomes.**

**OGP Report No 452, Oct 13**

# Elements of a Safety Culture (IOGP Report 452, Oct 13)

- **An informed culture:** Staying informed helps avoid complacency
- **A reporting culture:** Investigating incidents, near misses & observations
- **A learning culture:** Collecting information from various sources and ACTS
- **A flexible culture:** Able to adapt to the tempo of the operations
- **A just culture:** Clear expectations with fair & balanced investigations
- **Safety Leadership In Practice: A Guide For Managers**  
IOGP Report 453, Oct 2019



ACTIVE INVOLVEMENT OF LINE MANAGEMENT

# OECD Guidance for Senior Leaders June 2012

OECD = Organisation for Economic Co-operation & Development

- Ensure consistency of policy & practice
- Investment
- Follow-up on actions & root causes

- Ensure competent & continuous development
- Provide adequate resources & time
- Open communication



- Know the hazards
- Understand critical layers of protection
- Monitor & analyse safety KPIs
- Encourage reporting & sharing of experiences

<http://www.oecd.org/chemicalsafety/corporategovernanceforprocesssafety.htm>

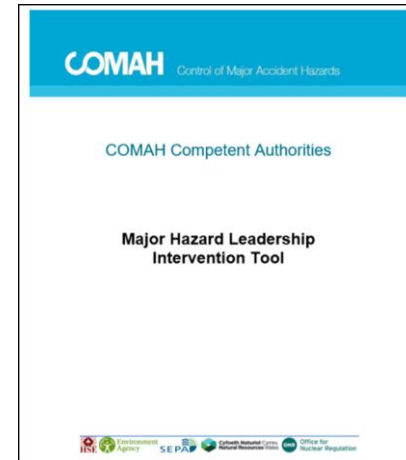
## Other Useful Guides & Tools:

### Best Practice Guide



- **Setting a Lead From the Board**
- **Clarity of Safety Policy & Expectations**
- **Visibility of interest at board-level**
- **Process safety performance indicators**
- **Process Safety Improvement plan**
- **Review incidents from other sources**

### HSE Major Hazard Leadership Intervention Tool

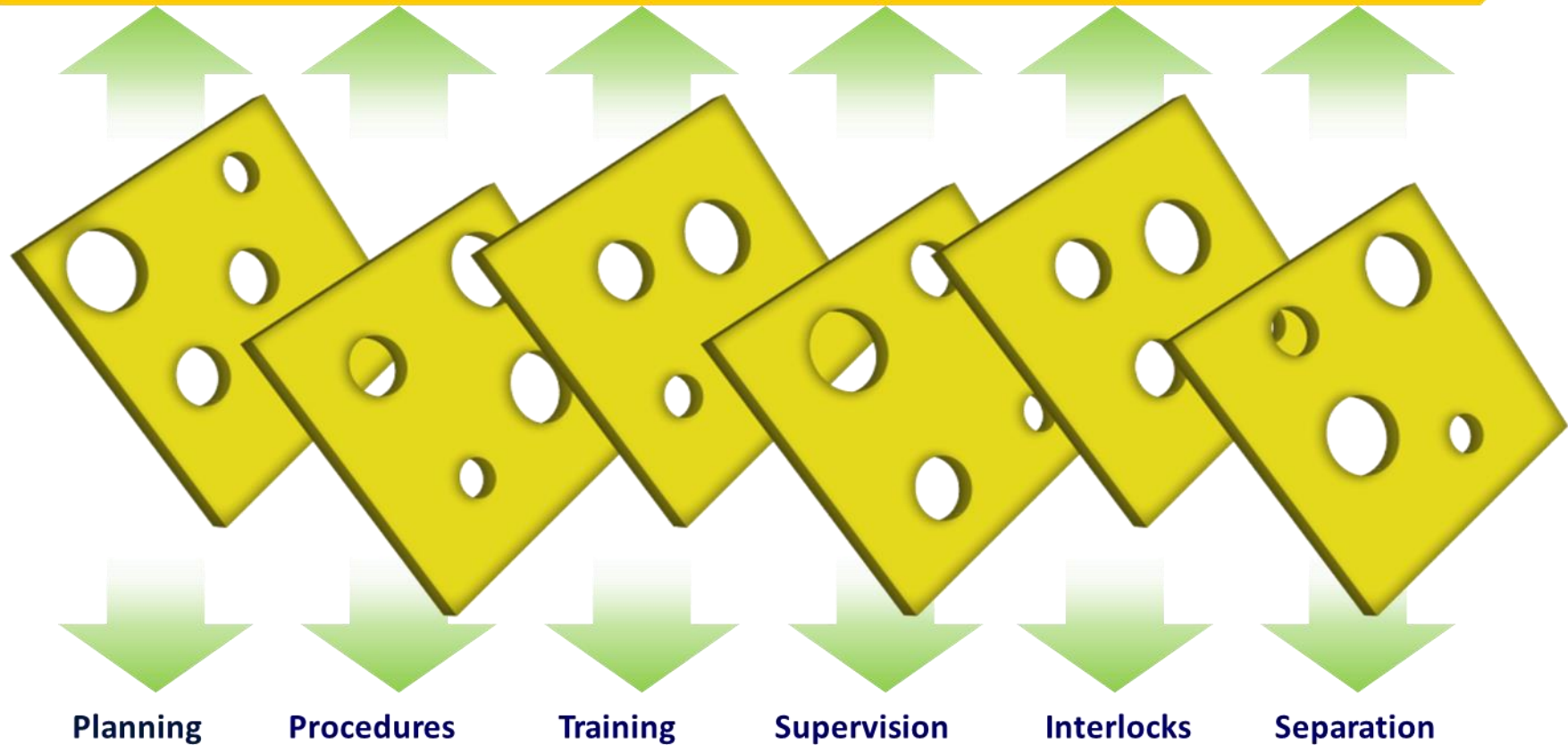


- **8 Key Principles outlined, with sample questions and “what good looks like”**
- **Emphasis on board level involvement, visibility & competence**
- **Monitoring & communication of information & sharing of best practice**
- **Need to engage the workforce**

# The Swiss Cheese Model

Complex organisations have multiple & successive layers of defence/ barrier – but no barrier is perfect & all barriers have weaknesses or “holes”

These barriers are *dynamic*, so the holes move



# When the Holes Align

- Failure to recognise when things are out of control
- Absence/inadequate information at Board level
- Failure to understand the risks & consequences
- Failure to manage process safety & take action - failure of safety management system



**Buncefield:**  
11 Dec 2005



Figure 11 Post-incident – tank 17T302 minus vessel roof

**Chevron Pembroke:**  
2 June 2011



**Challenger:**  
28 Jan 1986



**Columbia:**  
16 Jan 2003



**“A significant finding of the enquiry reports was that senior managers shared a mistaken belief that they were working in organisations with total commitment to safety and with effective safety systems”**

**“The role of human factors and safety culture in safety management”**

**R T Booth & T R Lee, 1995. J Eng Manuf, IMechE.**

**1<sup>st</sup> presented at “Successful management for safety, London 12/13 Oct 1993**

**“Normalisation of Deviance”**

# Leadership Team Engaging With Employees

- The attitudes and beliefs of **directors and employees at all levels** is critical for the appropriateness of safety control measures<sup>1</sup>
- Good safety cultures require proactive approach with ownership of safety **by every employee** & encouraging local safety reviews on the shop floor
- Internal Health & Safety Committees (HSCs) can improve Safety culture by creating better engagements between management, HSC and shop floor<sup>2</sup>



1. “The role of human factors and safety culture in safety management”

Booth & Lee, 1995. J Eng Manuf, IMechE.

1<sup>st</sup> presented at “successful management for safety, London 12/13 Oct 1919

2. “Improving safety culture through the health & safety organisation: A case study”

K J Nielsen

J of Safety Research, Vol 48, Feb 2014, pp 7-17

# The Roxel Group Sites



**Summerfield, Birmingham**  
Main Site of Roxel UK  
70 ha, approx

**Main Activities**

- Propellant technology
- Motor design and R&D
- Motor manufacture



**La Ferté Saint Aubin, Orléans**  
350 ha, approx

**Main Activities**

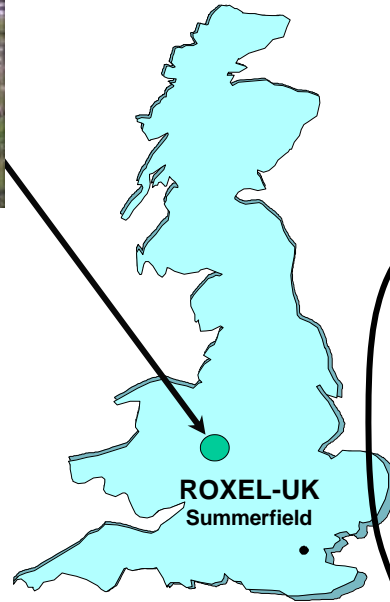
- Aeronautic components
- Mechanical parts
- Composite materials



**Le Plessis-Robinson, Paris**  
Roxel Group Head Office

**Activities**

- Group Management
- Sales & Business Development
- Finance
- Legal
- Communication



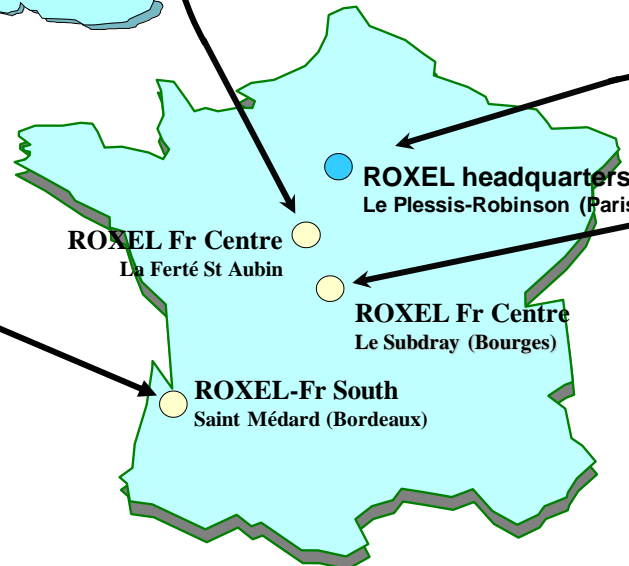
**ROXEL-UK**  
Summerfield



**St Médard en Jalles, Bordeaux**  
450 ha, approx

**Main Activities**

- Propellant technology
- Motor design and R&D
- Motor manufacture



**ROXEL headquarters**  
Le Plessis-Robinson (Paris)

**ROXEL Fr Centre**  
La Ferté St Aubin

**ROXEL Fr Centre**  
Le Subdray (Bourges)

**ROXEL-Fr South**  
Saint Médard (Bordeaux)



**Le Subdray, Bourges**  
150 ha, approx

**Main Activities**

- Air breathing technology
- Inert materials R&D
- Motor assembly and special trials



- Turning **climate** in to **culture**
- Sustain our focus & energy in safety
- Senior managers spending more time with front line workers “at the coal face”
  - Daily ritual of SQCDPI  
S = SAFETY
- Competency: Stronger use of OME apprenticeships & NOS



- **“If you think safety is expensive, try an accident” - adage**
- **“Effective process safety governance & culture is not a choice but a must for survival”, Mohammed Al-Mady, CEO Sabic**
- **“Creating a culture where all employees expect the unexpected and strive for error free work is absolutely essential”. Bob Hansen, CEO Dow Corning**
- **Process safety excellence in our OME sector is a continuous journey which requires sustained effort, commitment & attention, led right from the top of the organisation, with the support of all in the company”. Mark Hardman, Roxel Group**

**“A commitment to safety should not be a priority, but a value that shapes decision-making all the time at every level.”**

**R Tillerson, 2010  
Exxonmobil**

**QUESTIONS?**