

KOCAELI CHAMBER OF INDUSTRY



Human Culture in Process Safety (Factors & Mindset Challenges)

Dr. Mohammad Aref / HSE Consultant

Freelance Consultant

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- Professional OSH & HazMat Consultant, lecturer, Keynote speaker.
- Certified Instructor for HSE & HazMat Subjects.
- Highly motivated, registered accredited Practitioner, as well as Radiation Protection Qualified Expert (QE).
- 30+ Years work experience in Government /Regulatory Authorities, Oil & Gas, Energy, Manufacturing and Constructions Industries around the Globe.
- 20 years International Experience in various Senior Managerial & Key positions(Snr Consultant) in QHSE & HazMat Subject.

Outline

- ✓ Personnel Safety & Process Safety.
- ✓ Process Safety Incident Impact
- ✓ Why Human Factors?
- ✓ Classifications of Human Failure .
- ✓ Human & System interactions.
- ✓ Human Factors & Performance.
- ✓ Human Behavior & Mind-Set .
- ✓ How to promote Good Safety Culture.
- ✓ Conclusion.

Video



What's Safety

Safety is a combination of People as well as Systems.

People behaviours are driven by core beliefs, which can influence choices made by the individual in the workplace.

SAFETY = PEOPLE + SYSTEMS (Process)



Process Safety Incident Impact



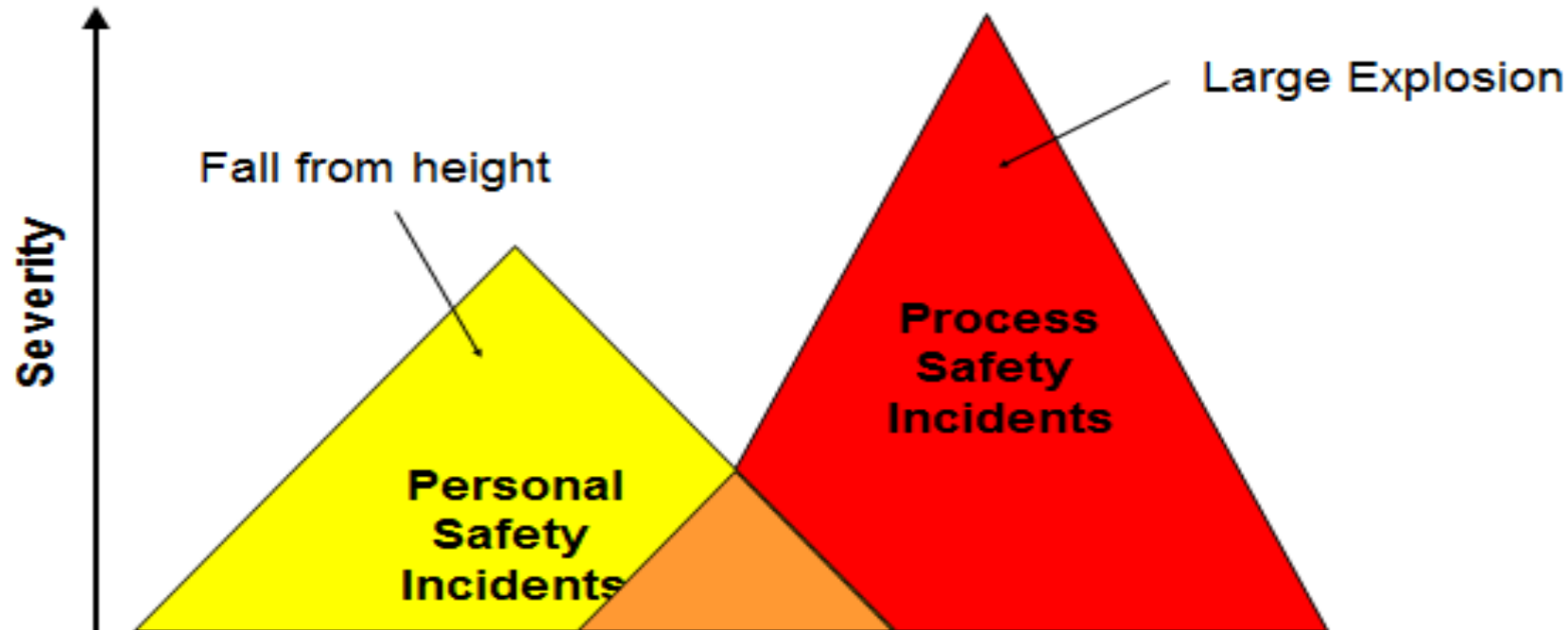
Bhopal, India 1984
1754 fatalities,
100,000's injured



Texas City 2005
15 fatalities

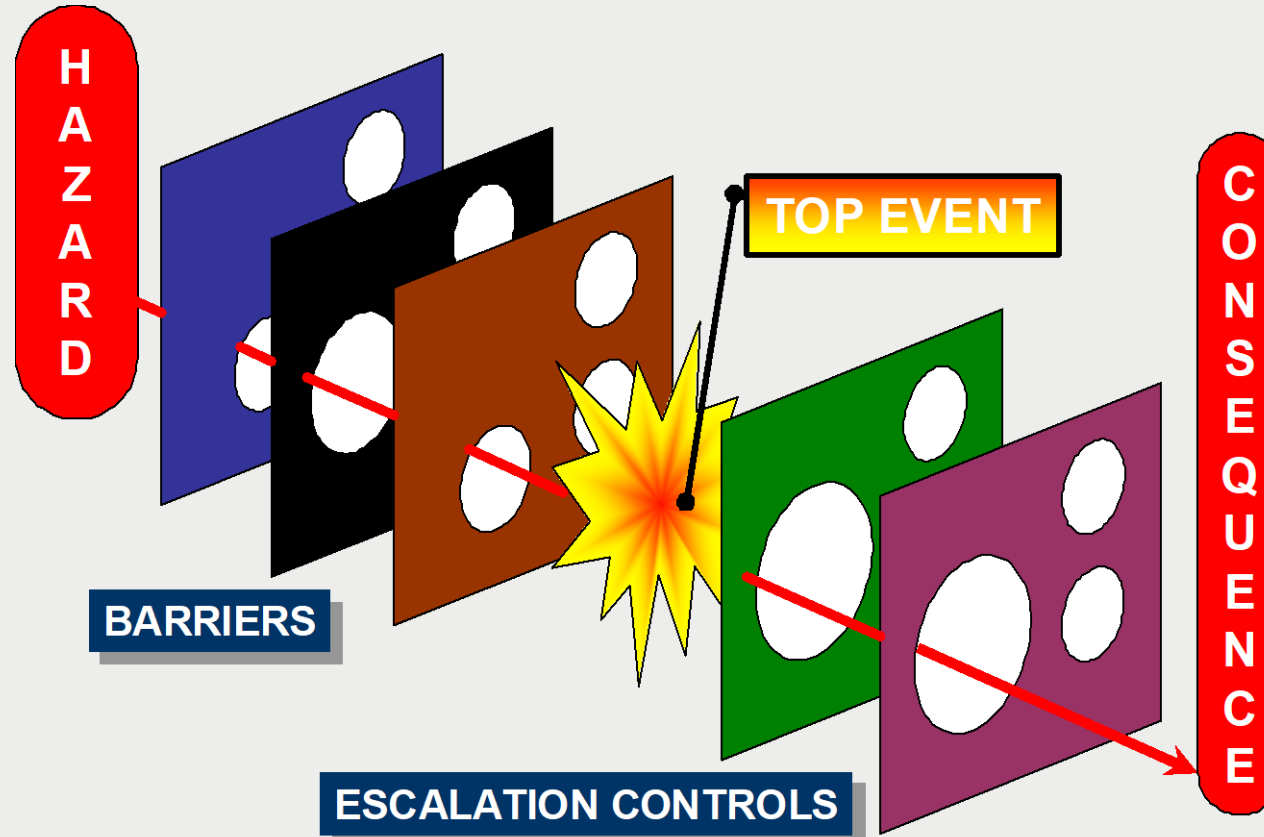
Process Safety Incident Impact

Catastrophic Process Safety incidents are often more severe than other types of incidents.



Focus: Incident Prevention

- People, Plant, Process
- OSHA Elements aim to assure integrity of these boundaries.



Human Errors % within Incidents Records

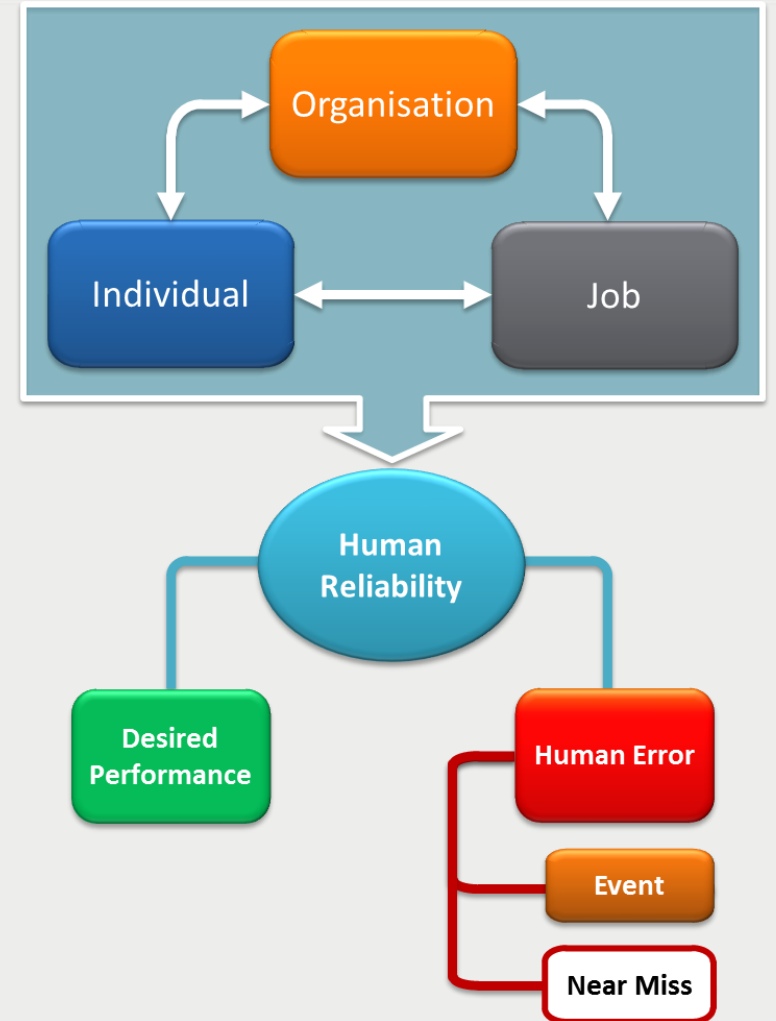


Unintentional Errors

- Slips
- Lapses
- Mistakes

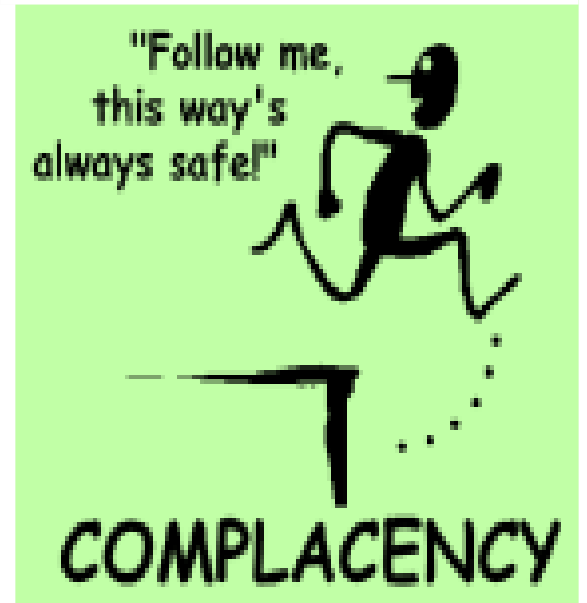
Intentional Violations

- Routine
- Situational
- Exceptional



Human Culture

- Worldwide industry has done many efforts to excel safety performances.
 - Designing safer installation
 - Reinforce procedures
 - HSE-MS implementation, etc.
- Lots of improvement has been made in the world of safety.
- Fatalities still occur and High Potential incidents repeatedly happen.
- What is missing from the efforts done to improve safety performance?
- Should we need a different approach?



Human Culture

- People do what they do in complex environments.
- People are impacted by a multitude of factors in their work environments.
- People do not want to get hurt.

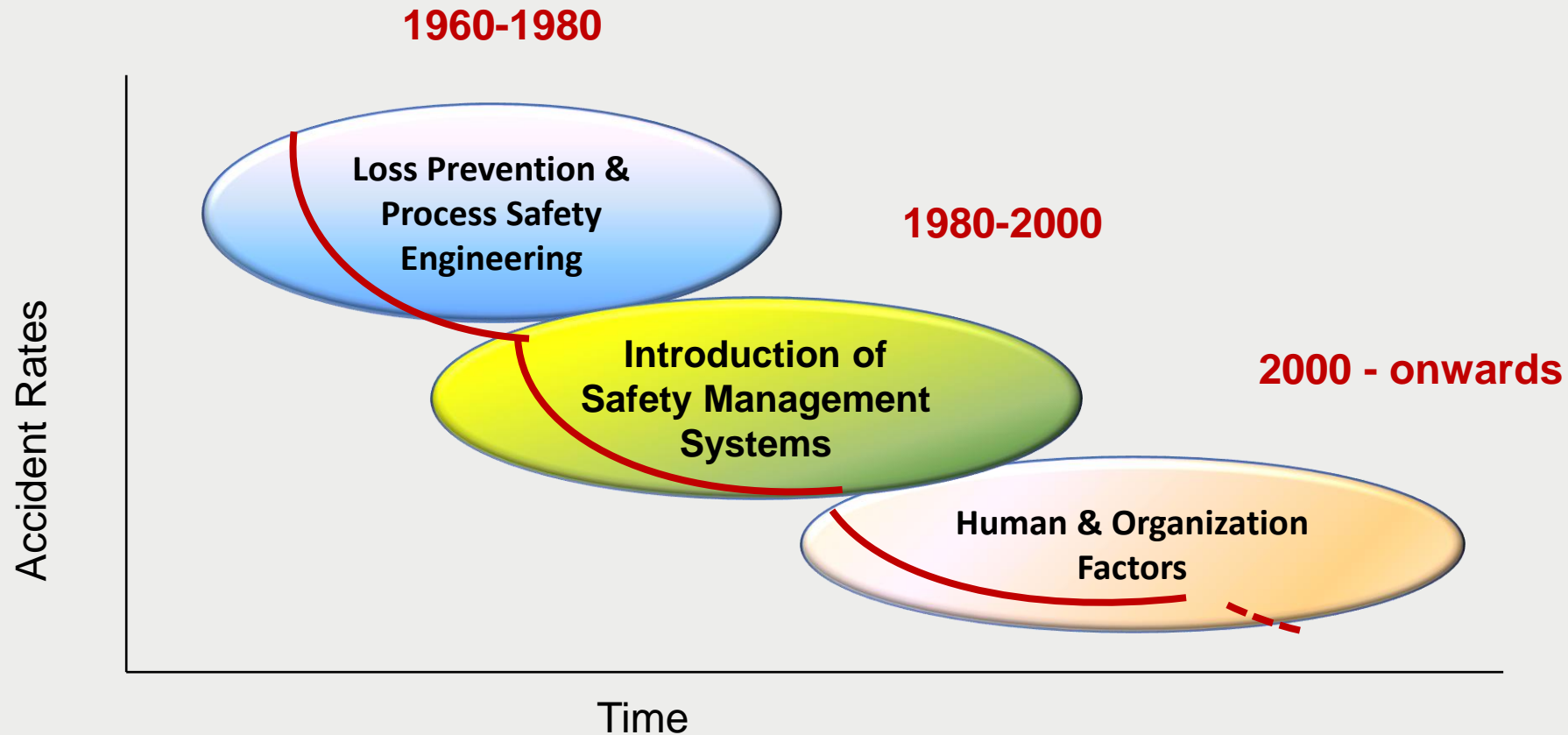
This leads to curiosity and a desire to understand *why Incident Occurred?*



Human Factors (HF) Skills



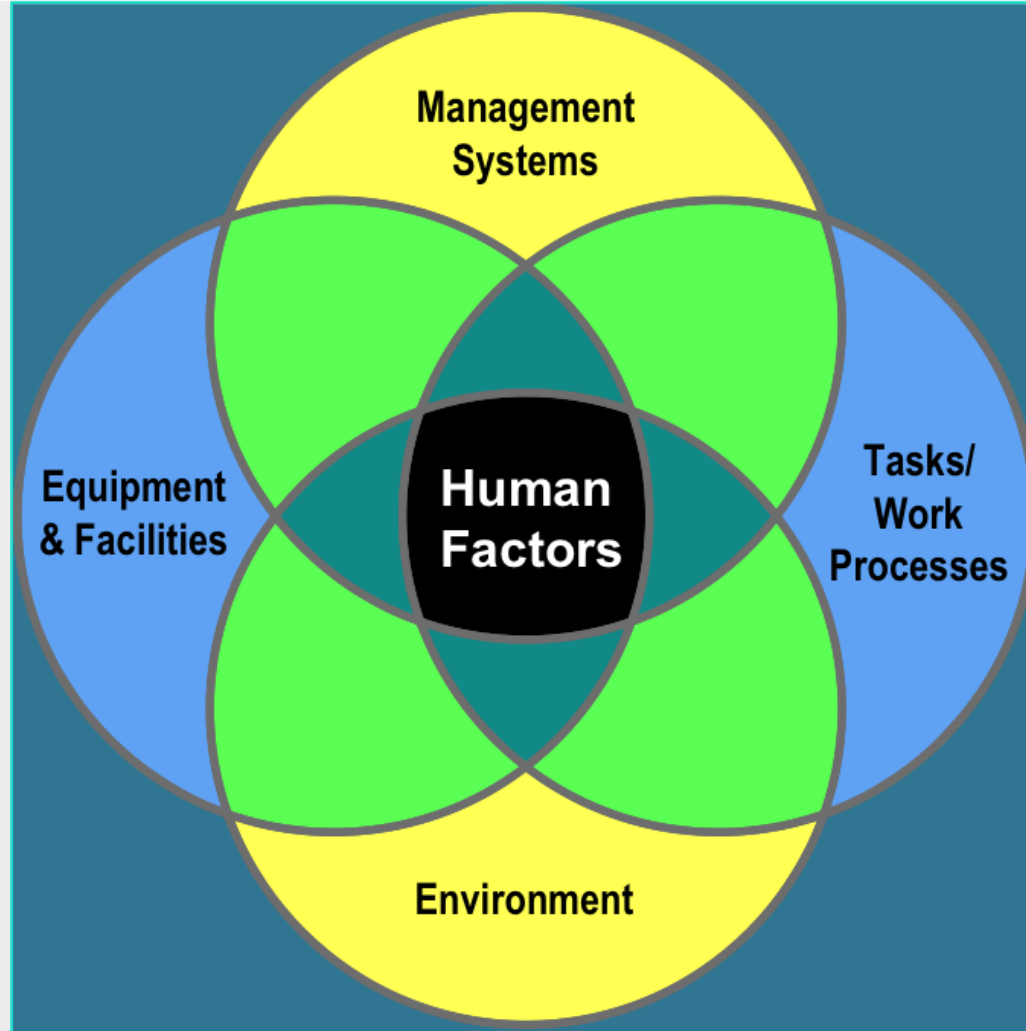
Successive Approach to Industrial Safety



Process-Safety & Personal Safety



Human Factors (HF).



Human & Machine / Sys. Interactions

- Human error is mainly due to deficiencies in the system which create the pre-conditions for error.
- Equipment Design ? (Human Error Free Design)?



SO is It Individual Error or System Failure?



- Human errors often caused by system and environment in which individual has to operate.
- Very important to consider system in which individual operates including communications, man-machine interface, etc.

Contributed Factors to Human Behavior

- **Job Factors**

Poor interface design, wrong tools, disturbance, noise, high workload, poor environment

- **Individual Factors**

Wrong skills, tired, de-motivated, bored

- **Organisational Factors**

High work pressure, poor systems, one-way communication, unclear responsibilities



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Human Culture & Characteristic



**The Know-
It-Alls**



**The
Passives**



**The
Dictators**



**The "Yes"
People**



**The "No"
People**



**The
Grippers**

Human Factors Influencing to Performance

Control the 3 Big Monsters :

1. Frustration.
2. Stress.
3. Fatigue.



Human Behavior & Mind Set

1. Emotional & Social Engagement?
2. Communications (Be Good Speaker & Listener)?
3. Clarity on Rules & Responsibilities?
4. Clarity on Agreed Objectives?
5. Team-Work Spirit?

- **Sustainable Intervention / Coaching**



Human Behavior & Mind Set

**Management is doing things right;
Leadership is doing the right things.**



Be Team-Leader Not a Manager!

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PROSES

SAFETY SYMPOSIUM

FUAR İÇİ 41040 IZMIT/KOCAELİ

TEL: +90 262 315 80 00

FAX: +90 262 321 90 70

WEB: www.kosano.org.tr

E-MAIL: kso@kosano.org.tr

