ICSI
Institut pour une culture de sécurité industrielle

PAYING ATTENTION TO THE ESSENTIALS:
PREVENTING SERIOUS INJURIES, FATALITIES & MAJOR TECHNOLOGICAL ACCIDENTS

DRAMATIC CONSEQUENCES

THE IMPROBABLE DOES HAPPEN!

RE-FOCUS ON THE RISKS LEADING TO THE MOST SERIOUS ACCIDENTS

DRAMATIC CONSEQUENCES
ACTUAL:
AND
POTENTIAL:

THE INCIDENT RATE HAS ITS LIMITS

INITIAL OBSERVATION

WHERE ARE THE PRIORITIES?

INCIDENT RATE

FATAL ACCIDENTS DESPITE A DECLINING INCIDENT RATE

FROM THE BIRD PYRAMID TO THE PREVENTION DIAMOND

MINOR OR SERIOUS RISK?

RISK PERCEPTION

WHAT IS A SIGNIFICANT RISK? WE NEED TO AGREE ON THIS!

IDENTIFY HIPO

INVOLVE FRONTLINE STAFF

PREVENTION STRATEGY:

RISKS LEADINGS TO THE MOST SERIOUS ACCIDENTS OR THOSE THAT ARE POTENTIALLY THE MOST SERIOUS

THE TARGET:
SERIOUS ACCIDENTS

NEED:
STRATEGY
SIGNIFICANT RISKS

AIM

DEVELOP / ANCHOR RIGOUR AND CAUTION IN PRACTICES

➡ QUESTIONING ATTITUDE

CULTURE OF DOUBT

LIMIT OPTIMISM BIAS

NO WORRIES!

CAUTION & RIGOUR WHEN FACED WITH THE MOST SIGNIFICANT RISKS

➡ BENEFIT TO MINOR RISKS

PRIORITY

FATAL OR SERIOUS ACCIDENTS

MAJOR INDUSTRIAL ACCIDENTS

SAME CAUSES

ORGANISATIONAL WEAKNESSES

HUMAN ERROR

OOPS

A NEW DEFENCE SYSTEM:

LINES OF DEFENCE

PREVENTION
RECOVERY
MITIGATION

THE MOST EFFECTIVE

LONG-TERM INVESTMENT: EFFECTIVENESS

NU-UH! YOU'RE NOT WELCOME HERE!

Fix

HIPO SITUATION

DISRUPTIVE ELEMENT WITH WEAKENING EFFECT

ESTABLISHED AWARENESS

SPECIFIC INDICATORS FOR THE MOST SIGNIFICANT RISKS:

ENGAGEMENT INDICATORS

SHARP-END INDICATORS

MONITORING OF STRATEGY DEPLOYEMENT

OVERALL/LOCAL MANAGEMENT

PRACTICES/AWARENESS:

GOLDEN RULES

PREVENTION SYSTEM TARGETING THE MAJOR RISKS

JUST CULTURE

PRELIMINARY CLIENT COMPANY/ CONTRACTOR COMPANY VISIT

UPWARD REPORTING

BRIEFING/ DEBRIEFING

SHARED VIGILANCE

INFLUENCE & CHANGE PRACTICES

INCREASED RISK AWARENESS

CHANGING PRACTICES

AWARENESS

OPERATIONAL EXPERIENCE FEEDBACK

DISCUSSIONS, INTERFACE & SYNERGY

SIMULATIONS

NEW RECRUIT ON BOARDING

SHARE THE CONTENT OF THE SAFETY CASE

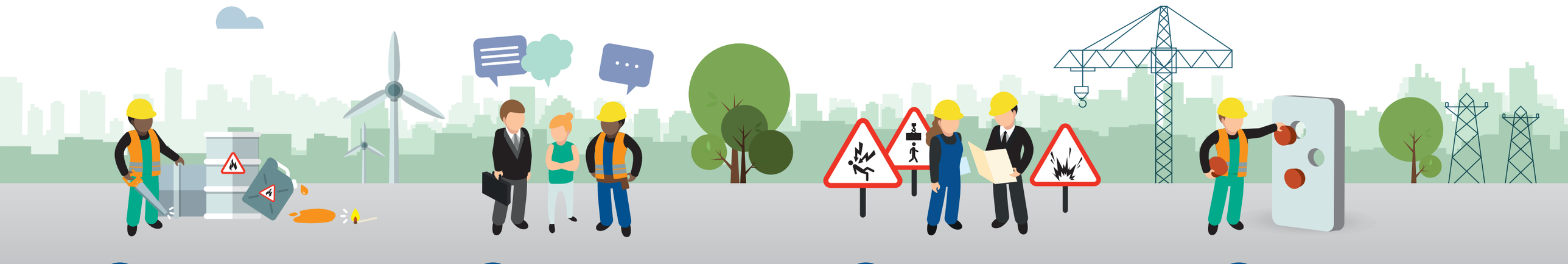
FIRST-HAND ACCOUNTS FROM OLD-TIMERS

INCIDENT ANALYSIS

OLIVIER SAMPSON

The essentials

for preventing serious injuries, fatalities and major technological accidents



Preventing the risks leading to the most serious accidents

Safety policies and associated resources are too often focused on reducing the most frequent accidents, which are usually the most minor. **Companies should focus their attention and strategy on what is essential: preventing serious injuries, fatalities and major technological accidents** which, although rare, have dramatic consequences.

Reducing the incident rate does not in any way guarantee effective prevention of the most serious accidents. A better interpretation of the Heinrich-Bird pyramid shows the need to focus on the "prevention diamond", i.e. the **serious incidents that have actually occurred, but also high-potential incidents or incidents with a high potential for serious consequences (HIPos).**

Everyone in the company needs to agree on the risks leading to the most serious accidents: risks linked to processes, to the work environment and the movements/procedures required, to simultaneous operations and to a combination of these different aspects... It is essential for everyone to be involved in establishing and updating the list of situations in which serious accidents are possible.

Improving the defence-in-depth system

To prevent serious injuries, fatalities and major technological accidents, **HIPo situations must be anticipated** and three lines of defence must be put in place: **prevention, recovery and mitigation.**

Each line includes **one or several barriers,** each of which may have aspects that are technical, related to the safety management system, and/or linked to human and organisational factors. The barriers are alive: they are implemented and put in place (kinetic), and their effectiveness must be maintained over time. At every stage of their life, their performance can be affected by many different types of disruptive elements.

Detecting **combinations of disruptive elements** at the sharp end through collective vigilance and **having appropriate fixes in place** to deal with them is therefore essential.

Cultivating a shared awareness of the most significant risks

Risk perception is an essential part of risk management. Over- or under-estimating risks jeopardises prevention.

To improve risk perception when it comes to rare events, **specific means** are required: explaining the content of the safety case to the operational teams, simulations, group study of past incidents or events that have occurred elsewhere...

Accurate risk perception requires **knowledge of the possible HIPo situations, the different barriers, and confidence** in the state of these barriers based on active involvement in checking them on a regular basis.

In real time, gaining **an accurate picture of a situation** will depend on the quality of the available information, the training and experience of the operational staff, and an organisation that enables focusing on critical tasks without attention being scattered.

Succeeding at preventing the most serious accidents

Giving priority to the prevention of serious injuries, fatalities and major technological accidents implies a **reorientation of the safety policy, based on coordination between overall management and local management.**

The reporting and handling of information about HIPo situations must be organised, with a central role given to **sharp-end management and to discussions within the teams.** Resources must be allocated to investigating the causes of HIPo situations as a matter of priority.

Special attention must be paid to **the elaboration of a common safety culture construct between user company and contractor companies,** at every stage of the contractual relationship.

Local residents can play an active role in preventing major risks. Their behaviour in the event of a crisis will depend on the trust built "in peacetime".

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