



Accident Analysis Benchmarking Exercise Workshop

Summary of the Exercise and Workshop Objectives

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Team 7: Buncefield Accident

Accident description: Fire followed by a series of explosions on 11 December 2005 at the Hertfordshire Oil Storage Terminal, an oil storage facility located in Hertfordshire, England.

The Major Incident Investigation Board appointed to investigate the accident produced a series of reports summarising findings.

Methods used:

Phase 1 – Sequence of events: STEP

Phase 2 – Direct causes: Tripod Beta, Accimap

Phase 3 – Indirect causes: CAST, Accimap

Participants: Maureen Wood, Mark Hailwood, Zsuzsanna Gyenes

Main messages

Phase 1: STEP

A method that is so simple that it doesn't seem like a method

It is a timeline of events, but each event is associated with an actor

The association with an actor provides already a preliminary insight into what should be explored in Phase 2 and Phase 3

Tripod Beta



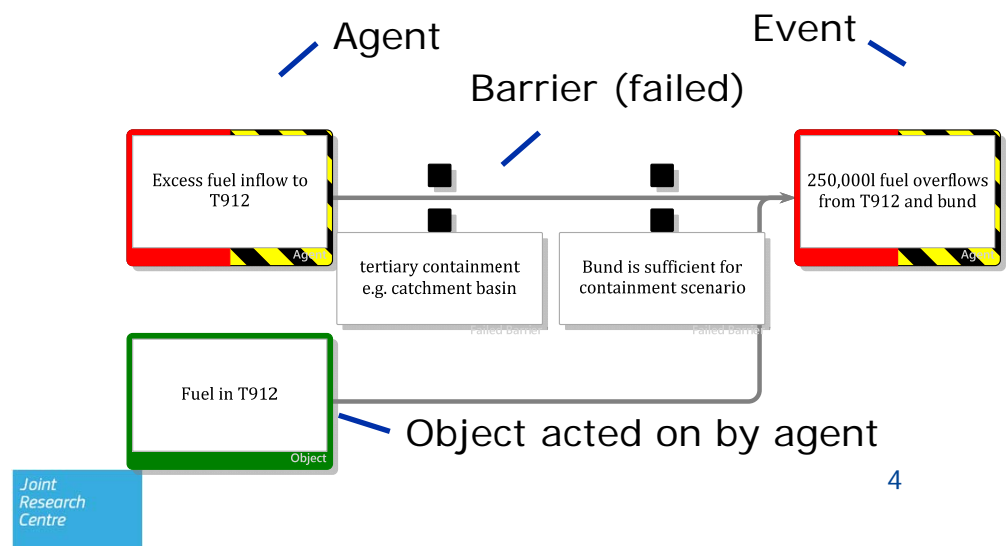
- A method that combines barrier analysis (Swiss cheese model) merged with a bow tie approach (my impression)

Strengths

- Forces disciplined thinking and systematic structuring of failed, missing and successful barriers that shaped the final outcomes
- Provides a logical system for identifying underlying causes
- Good for establishing on-site management failures

Weaknesses

- Cumbersome for complex cases
- Tool is awkward to use if multiple latent failures for one barrier
- Tool is awkward for long chains of latent failures (especially if they involve off-site influences)
- Requires software (expensive) and training



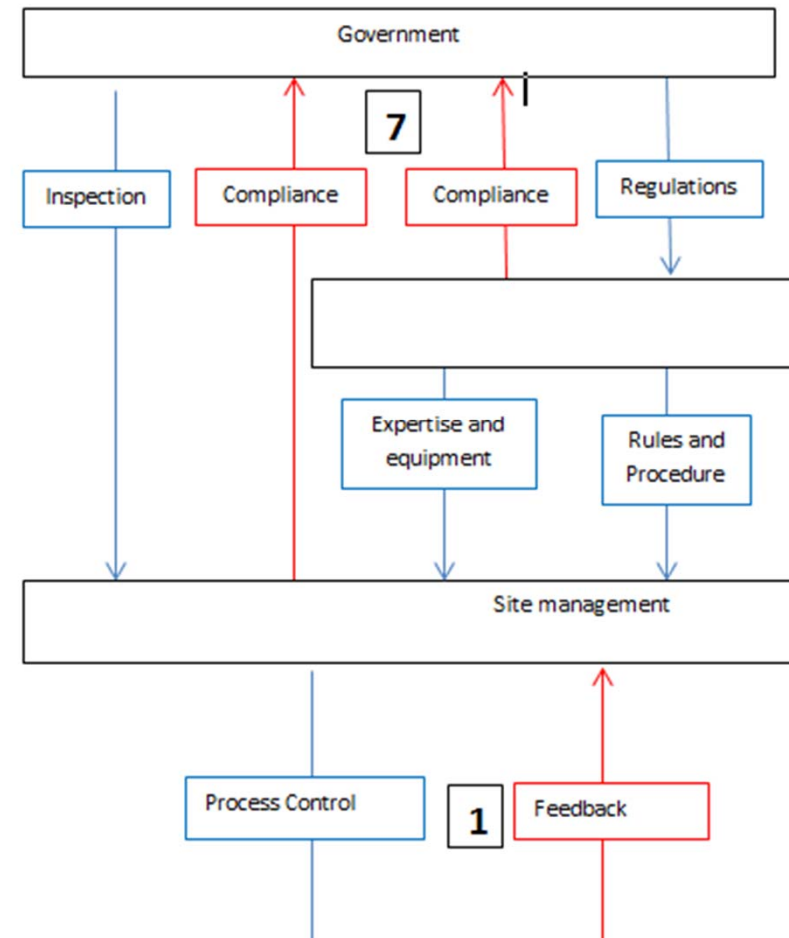


Strengths

- Provides clear picture of communication and management breakdowns within and between organisations
- The drawing of the diagramme provided a very useful visual tool
- Seemed easy to use building on a detailed barrier analysis

Weaknesses

- Works in many dimensions at the same time. Probably not the best tool for direct cause analysis, as this is better suited to linear thinking
- No real training available (but the tutorial is pretty good)





Thank you for your kind attention!

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chemical accident risk reduction**

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