# How Clean is Clean

Dave Lavers
Director, CBRN Directorate
Australian Department of Defence

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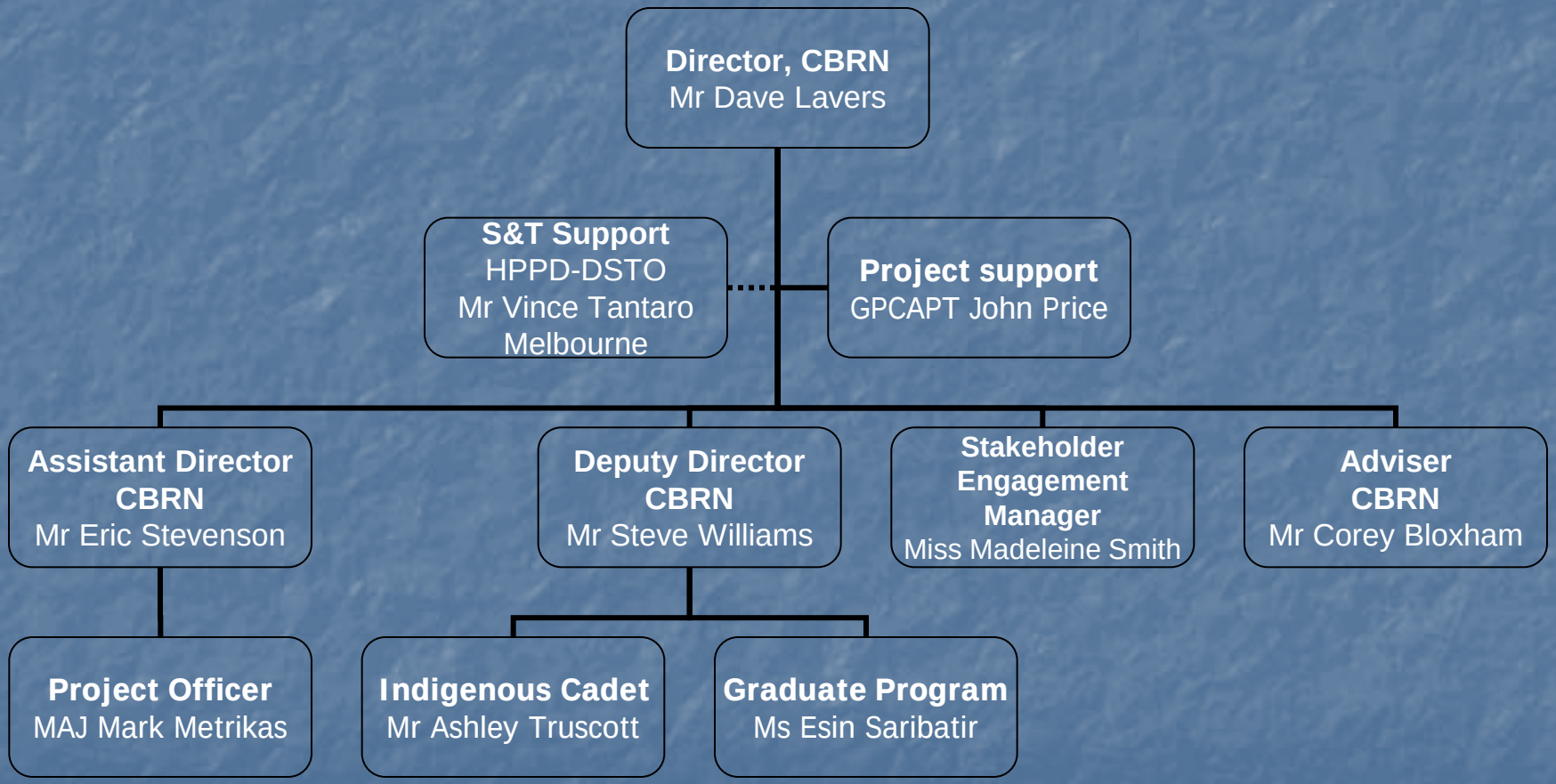
# Australian CBRN Directorate




Leave – Miss Stephanie Kimonides

# Organisation CBRN Directorate

- Role:
  - Influence and coordinate the development and management of joint CBRN capabilities and concepts
- Goals:
  - Monitor Defence CBRN capability
  - Develop Joint CBRN policy
  - Engage with other CBRN organisations
  - Enhance CBRN interoperability

# ‘Household’ Terrorist

**Georgia Alex Lavers, Aged 9yrs**

# Scope of Presentation

- Defining clean
- Public perception / confidence
- Role and importance of facts
- How clean is clean?

# Defining clean

# Why this topic?

- ‘how clean is clean’ can’t be answered!
- There is an answer to everything!
- There must be an answer!
- What if we do not answer the question?

# Defining ‘Clean’ – the Web:

- free from dirt or impurities;
- free of restrictions or qualifications;
- not spreading pollution or contamination; especially radioactive contamination;
- "the tactical bomb is reasonably clean"
- make clean by removing dirt, filth, or unwanted substances from.

# Considerations

- Awareness
- Science
- Education
- Benchmarks
- Research
- Technology
- Standards
- Equipment
- Legal Framework
- Training
- Legislation
- Plans
- Policy

# Functional areas

- Science
- Technology
- Research

- Science & Technology

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- Equipment
- Training
- Plans

- Equipment, Training & Plans

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- Benchmarks
- Standards
- Legal Framework
- Policy
- Legislation

- Legislation, Policy & Standards

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- Awareness
- Education

- Education & Awareness

# Key Domains influencing the Question

- Science & Technology
- Legislation, Policy & Standards
- Equipment, Training & Plans
- Education & Awareness

# Exploring how clean is clean

- Clean enough?
- For what purpose?
- Does it need to be clean?
- Opportunity cost of not cleaning?
- Opportunity cost of cleaning?
- Legal standards for the specific situation? - validated?

# Public perception / confidence

# Perception of Clean

# Perception of Clean

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# Perception of Clean

# Role and importance of facts

# Event = Decision

- an event is a FACT
- a FACT will influence perception
- a FACT must be addressed
- FACT = reality

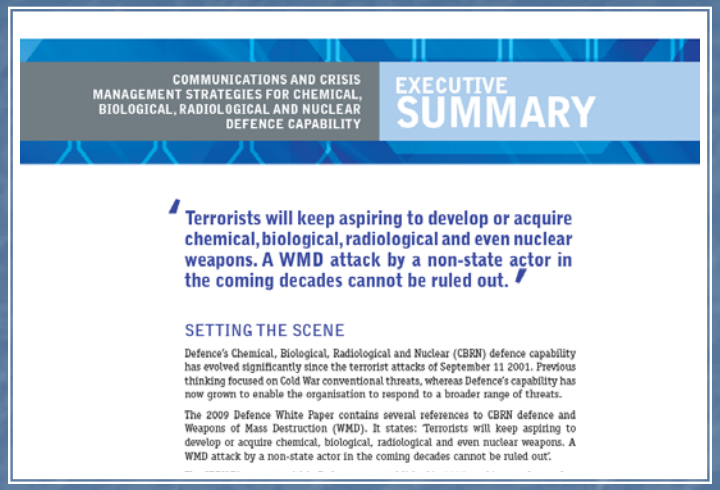
# Perception of Safe

# Event = Decision



- Critical event demands an answer.
- FACT alters perception.
- HOW CLEAN IS CLEAN ENOUGH?

# Communication Strategy



COMMUNICATIONS AND CRISIS MANAGEMENT STRATEGIES FOR CHEMICAL, BIOLOGICAL, RADIOLOGICAL AND NUCLEAR DEFENCE CAPABILITY

EXECUTIVE SUMMARY

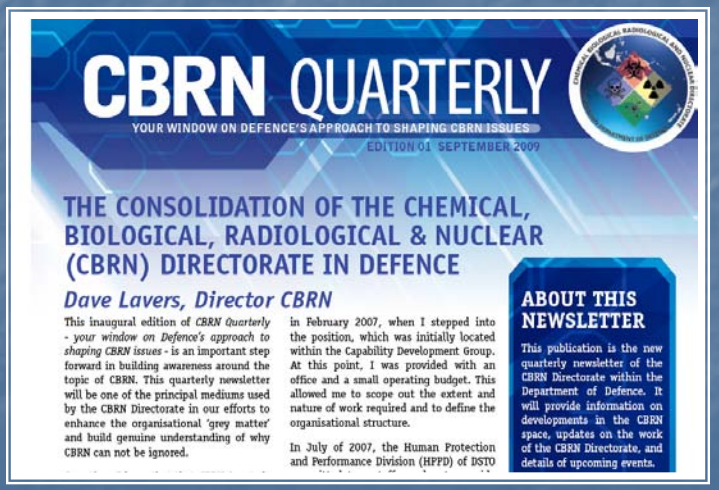
Terrorists will keep aspiring to develop or acquire chemical, biological, radiological and even nuclear weapons. A WMD attack by a non-state actor in the coming decades cannot be ruled out.

SETTING THE SCENE

Defence's Chemical, Biological, Radiological and Nuclear (CBRN) defence capability has evolved significantly since the terrorist attacks of September 11 2001. Previous thinking focused on Cold War conventional threats, whereas Defence's capability has now grown to enable the organisation to respond to a broader range of threats.

The 2009 Defence White Paper contains several references to CBRN defence and Weapons of Mass Destruction (WMD). It states: 'Terrorists will keep aspiring to develop or acquire chemical, biological, radiological and even nuclear weapons. A WMD attack by a non-state actor in the coming decades cannot be ruled out'.






# Nexus of Perception and Fact!

# Fictional scenario

- Device explosively disseminated - liquid and vapour drift across stadium
- Facts
  - Casualties
  - Mass panic
  - The ‘worried well’
  - Logistical burden
- Facts
  - Medical and contamination control issues
- Facts
  - Contamination density?
  - Cleanup and reuse requirements?

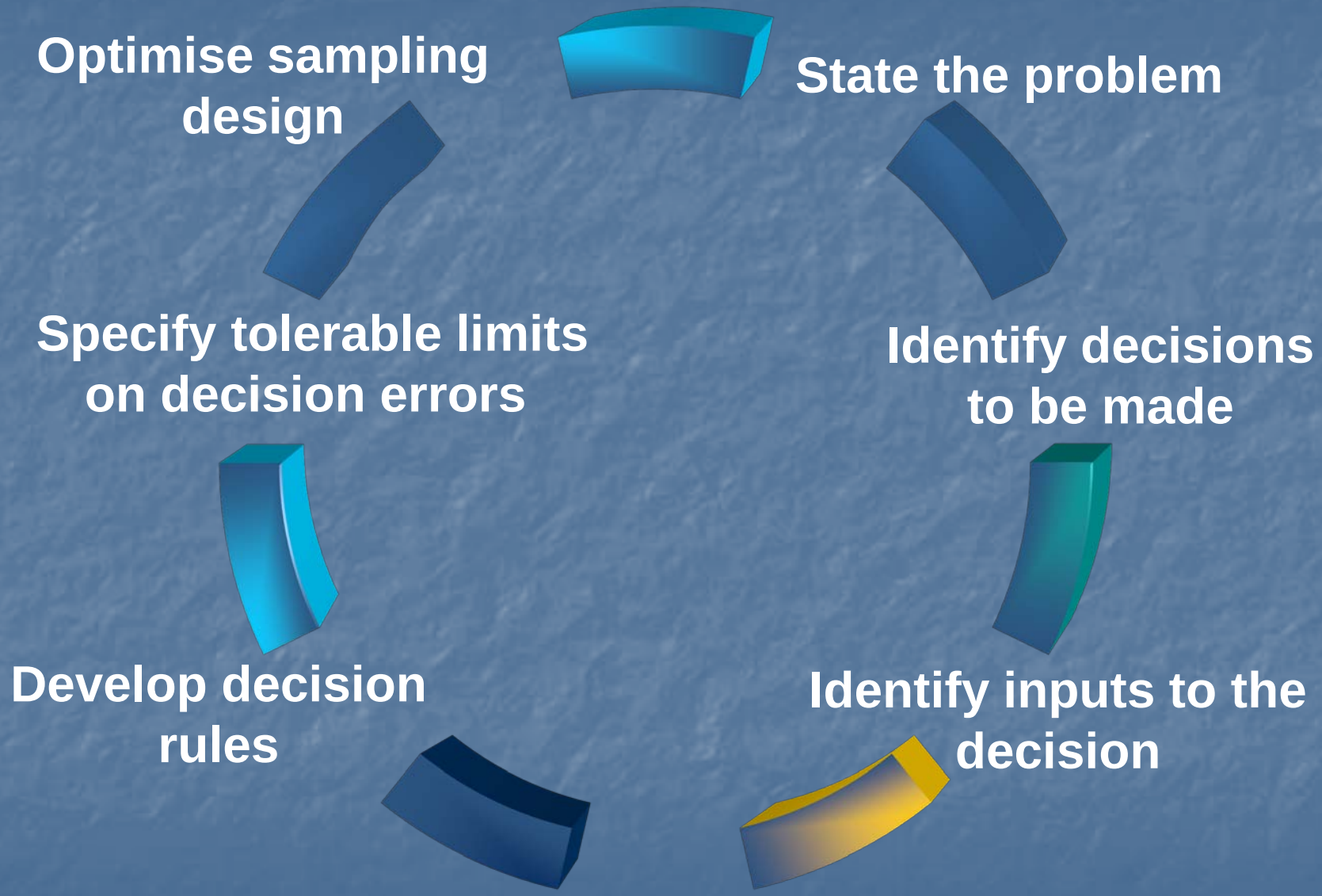
# Quantifying FACTS

- Clear need for a defensible, transparent decision support tool
  - Data Quality Objective (DQO)
    - Bob Muir & Steven Wilkinson
- DQO deals with fact and will illustrate fact.
- A coherent communications strategy will aid in selling the facts

# What is DQO?

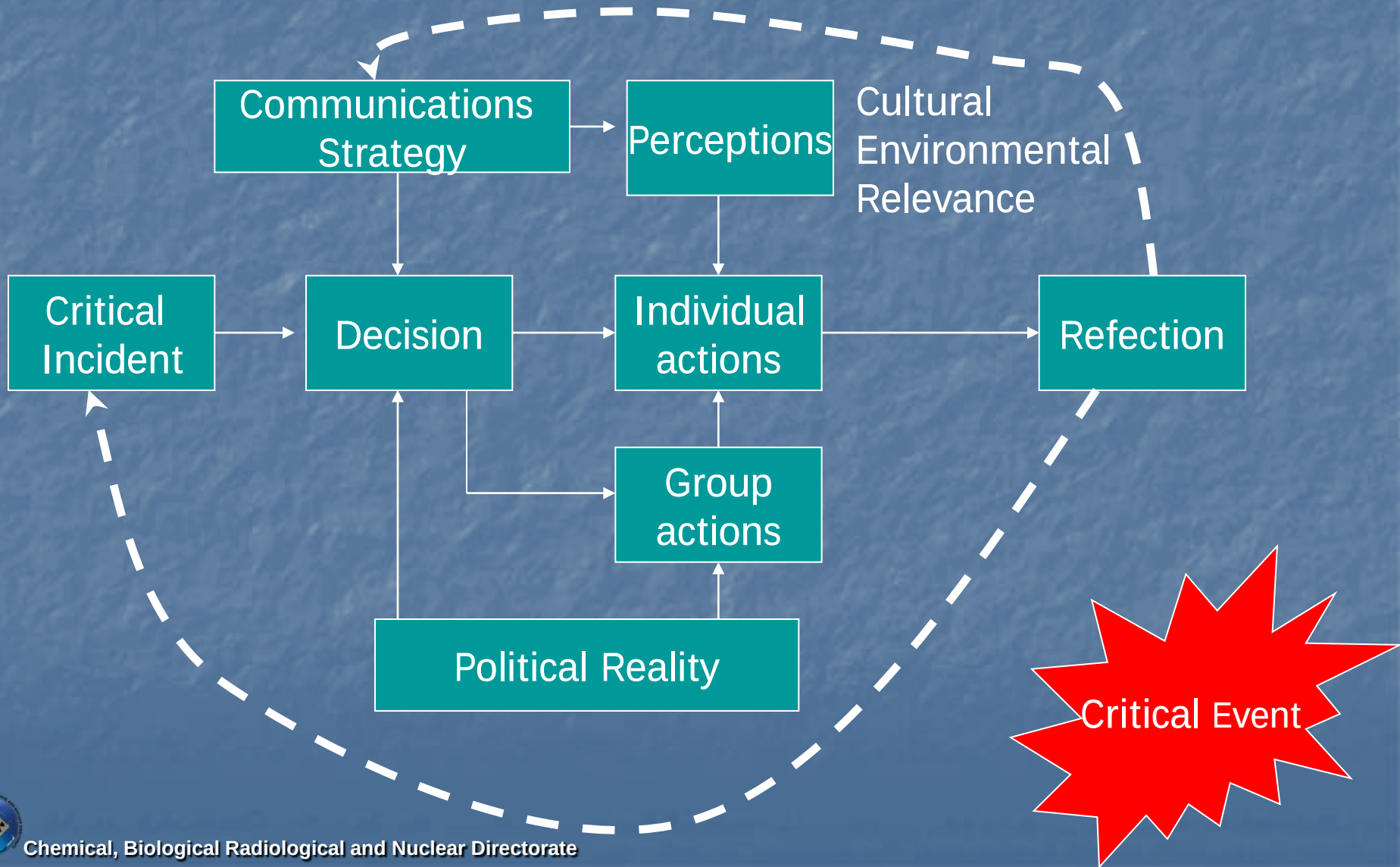
- USEPA procedure- systematic
- Defensible and robust
- statistical probability for uncertainty management
  - estimates = errors
  - errors are not mistakes
- reduces decision errors (mistakes)

# Overview of DQO process

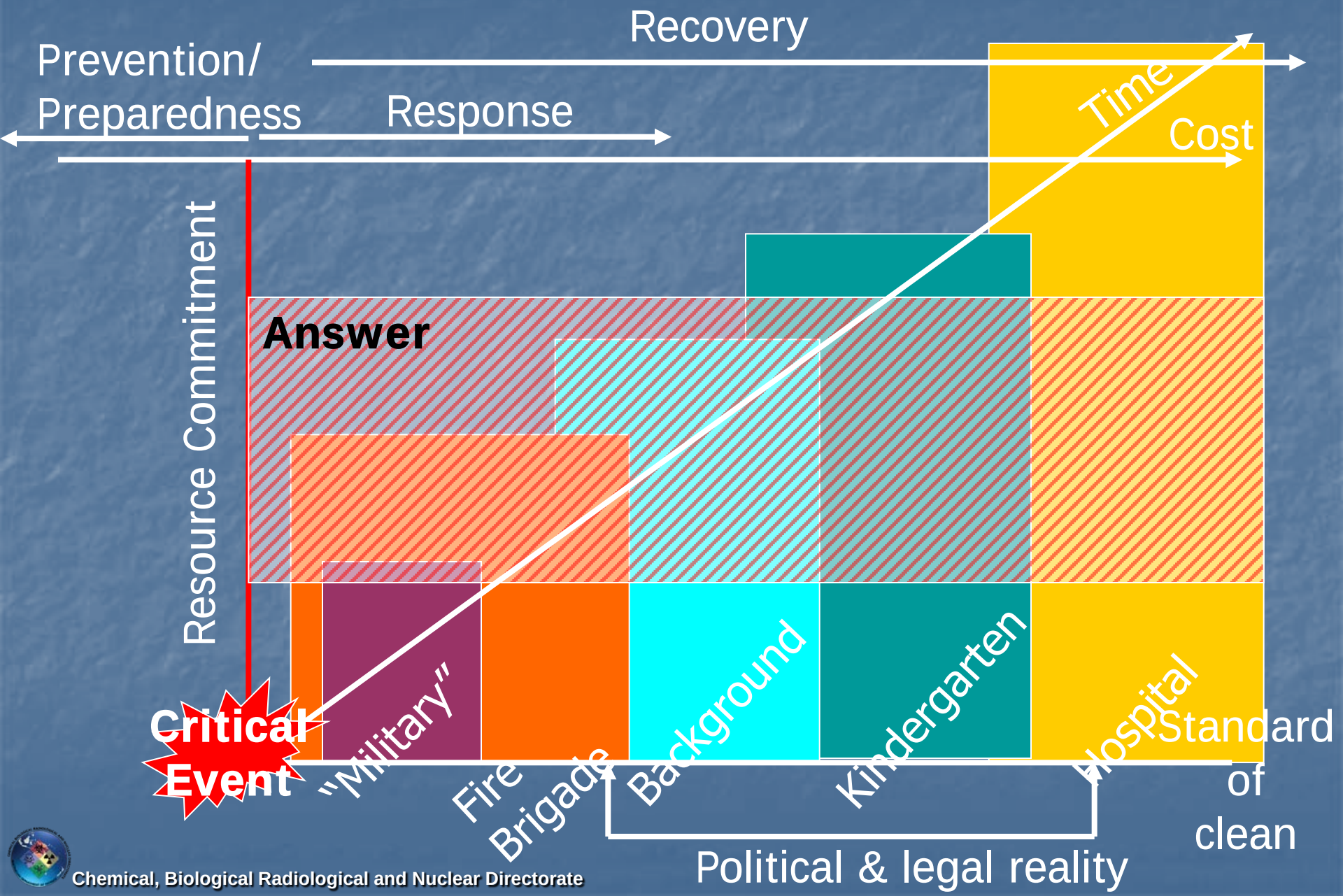


# How clean is clean?

# Model of a Critical Event



# Model of Clean



# Making the decision


# Discussion

- Many decisions are non-rational and based upon perception;
- Decisions should be informed by science;
- Science is not the decision maker;
- How clean is clean is a social question, not a science question.

# What do we need to do?

- process, not specific standards
- enable specific standards to quickly be developed
- process endorsed at highest level
- ‘play book’ of indicative standards
- science, should aid the decision

# Conclusion

**Georgia Alex Lavers, Aged 9yrs - '*Household' Terrorist***