

How Clean is Clean

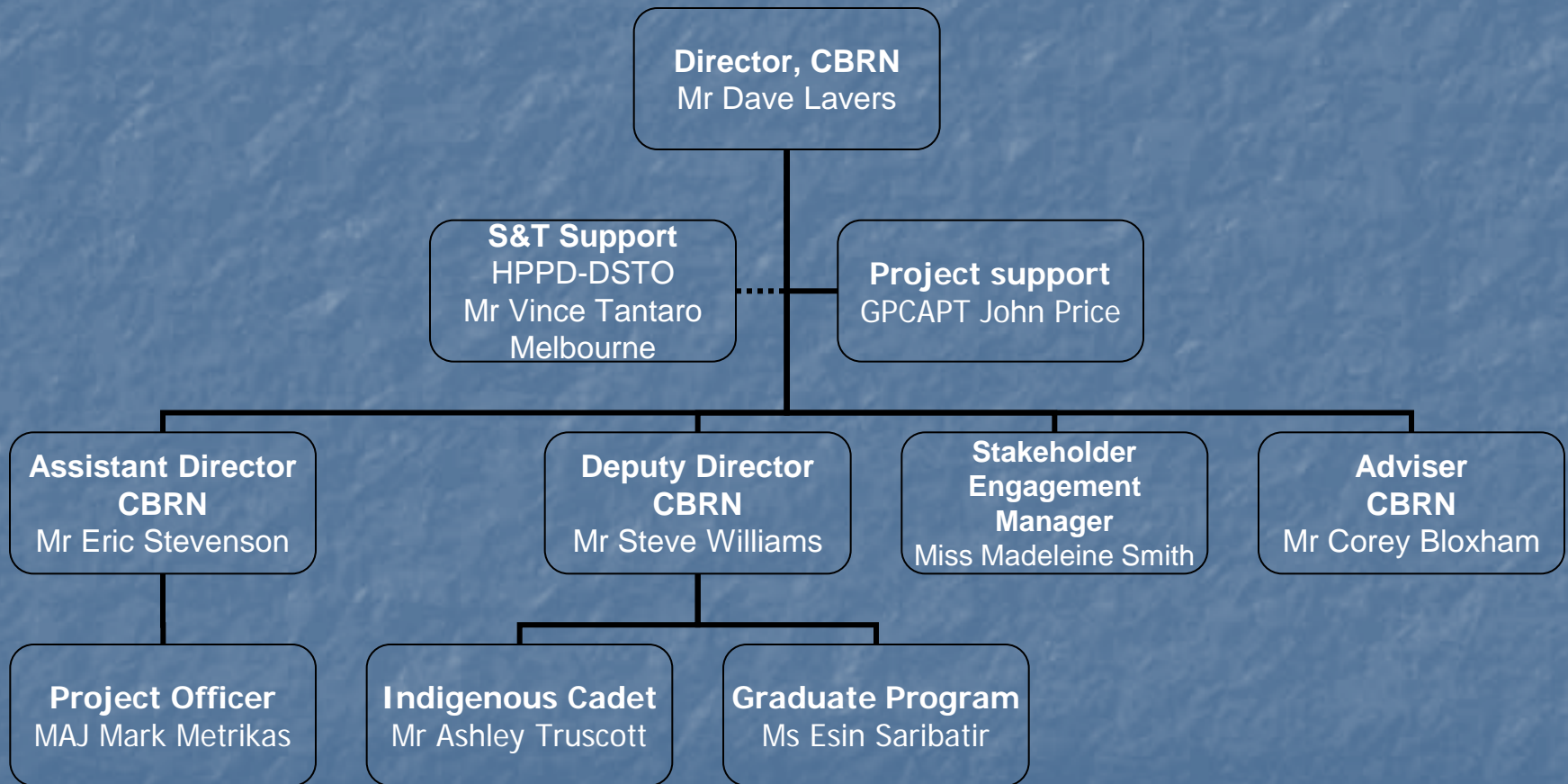


Dave Lavers
Director, CBRN Directorate
Australian Department of Defence

24 Jun 10



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
-

- Equipment
 - Training
 - Plans
 - Equipment, Training & Plans
-

- Benchmarks
 - Standards
 - Legal Framework
 - Policy
 - Legislation
 - Legislation, Policy & Standards
-

- 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



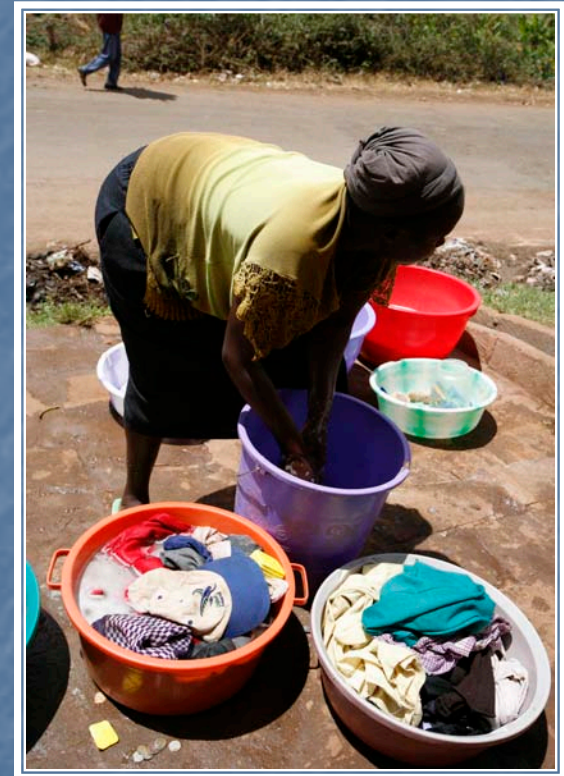
Perception of Clean



Chad Thatcher



Perception of Clean



Perception of Clean



Perception of Clean



Perception of Clean



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.'

Ready to Deploy: Conventional Army (CADA) (CBRN) personnel from the 15th CADA

Finding Chem-Bio

VICE CHIEF OF THE DEFENCE FORCE

Defending Against Toxic Attacks

By Stephanie Kimonides

After the 9/11 attacks, the world has seen a shift in the way we think about security. The threat of chemical, biological, radiological and nuclear (CBRN) attacks has become a reality. The 2009 Defence White Paper 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.'

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.'

CBRN QUARTERLY

YOUR WINDOW ON DEFENCE'S APPROACH TO SHAPING CBRN ISSUES

EDITION 01 SEPTEMBER 2009

THE CONSOLIDATION OF THE CHEMICAL, BIOLOGICAL, RADIOLOGICAL & NUCLEAR (CBRN) DIRECTORATE IN DEFENCE

Dave Lavers, Director CBRN

This inaugural edition of *CBRN Quarterly* - your window on Defence's approach to shaping CBRN issues - is an important step forward in building awareness around the topic of CBRN. This quarterly newsletter will be one of the principal mediums used by the CBRN Directorate in our efforts to enhance the organisational 'grey matter' and build genuine understanding of why CBRN can not be ignored.

In February 2007, when I stepped into the position, which was initially located within the Capability Development Group. At this point, I was provided with an office and a small operating budget. This allowed me to scope out the extent and nature of work required and to define the organisational structure.

In July of 2007, the Human Protection and Performance Division (HPPD) of DSTO

ABOUT THIS NEWSLETTER

This publication is the new quarterly newsletter of the CBRN Directorate within the Department of Defence. It will provide information on developments in the CBRN space, updates on the work of the CBRN Directorate, and details of upcoming events.

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

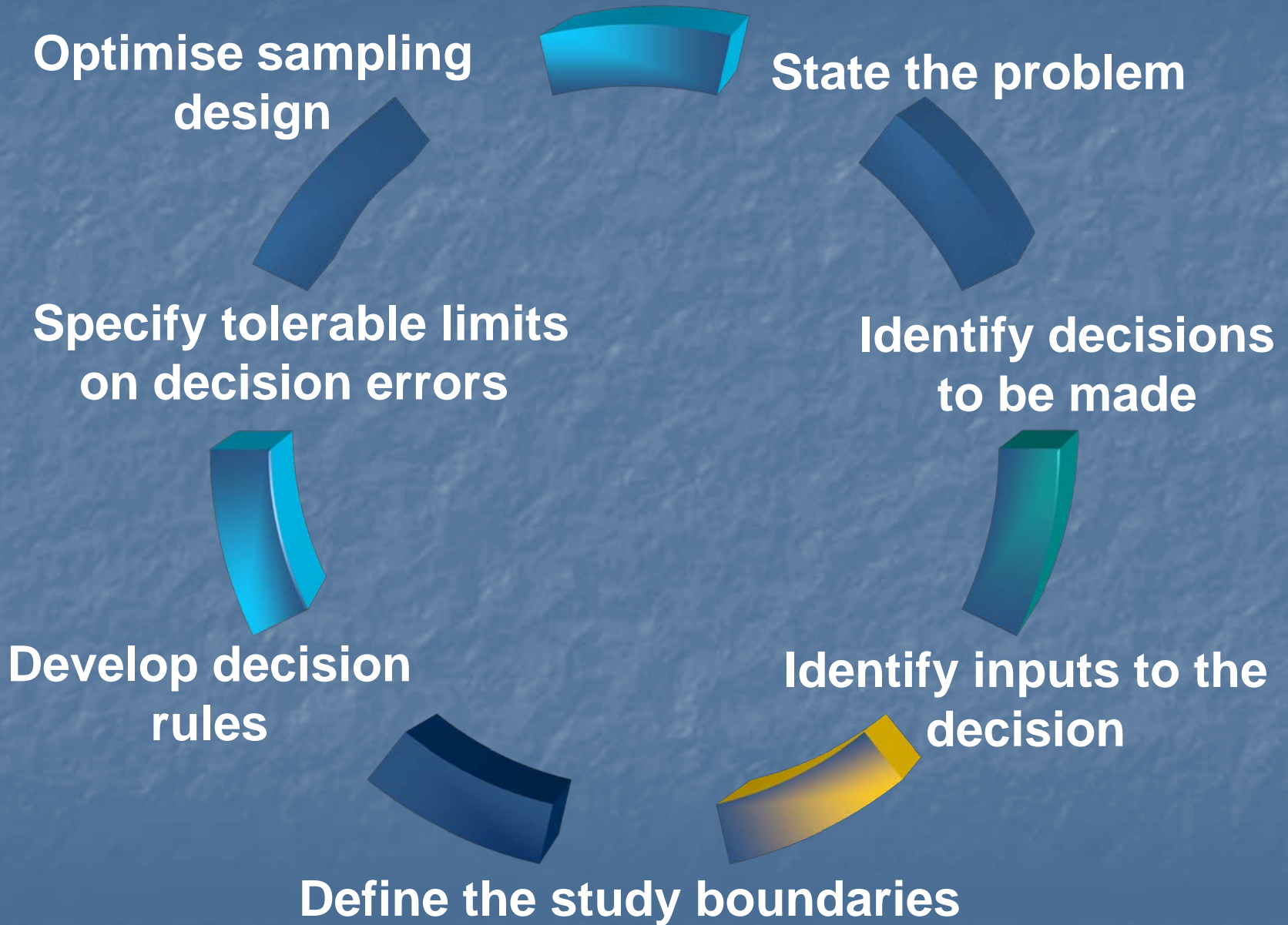


What is DQO?

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



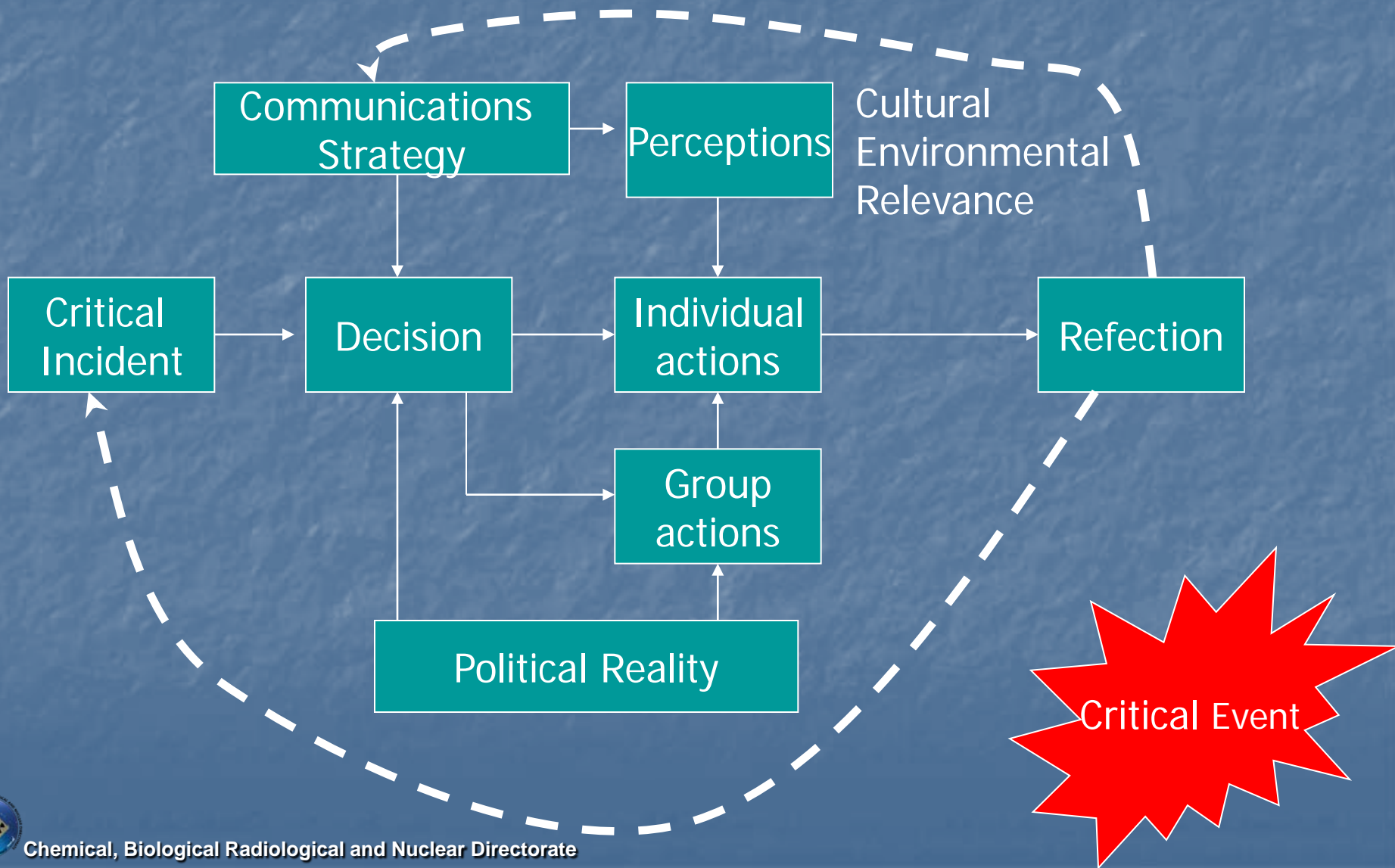
Overview of DQO process



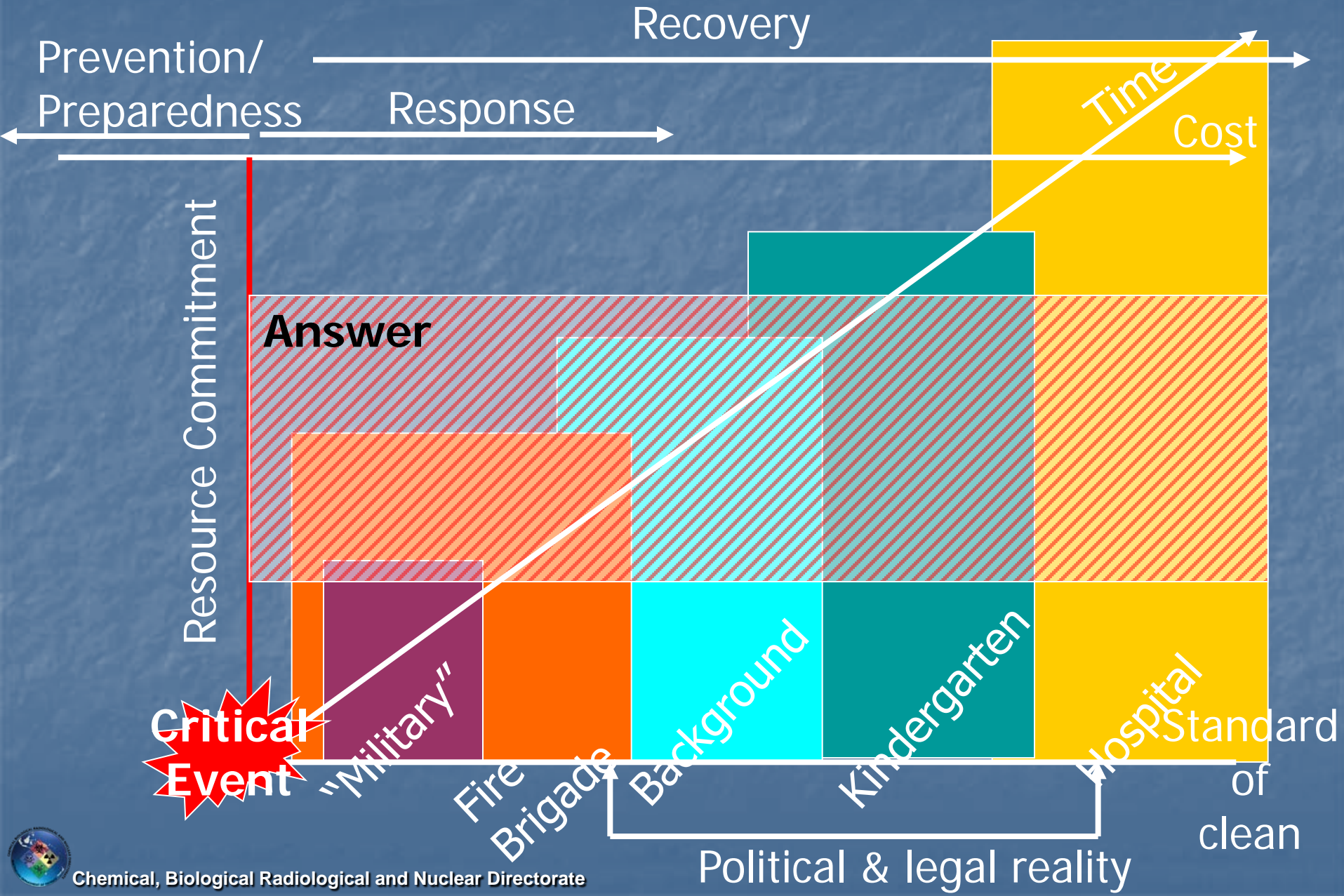
How clean is clean?



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*

