THE AUSTRALIAN FRAMEWORK FOR MANAGEMENT OF DRINKING WATER QUALITY:

Advantages for Regulators and Water Utilities

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Background

- In Australia drinking water is regulated by State Health agencies
- Most water supplies are provided by State agencies or local authorities
- The Australian Drinking Water Guidelines are the basis for defining regulations and quality requirements
- In the late 1990's it became clear that regulation of drinking water safety depended on the application of preventive risk management systems

Why Risk Management ?

- **Concern about reliance on a number driven approach with management and health decisions being based on compliance testing (0 *E.coli* per 100 mL meant water is safe)** ***(Too little, too late)***
- **Lack of a coordinated approach involving all appropriate agencies (health, water suppliers, catchment managers, planners etc)**
- **Disparity in standards/attention applied to rural and remote supplies compared to capital cities.**
- **The 1998 Sydney Water Incident**

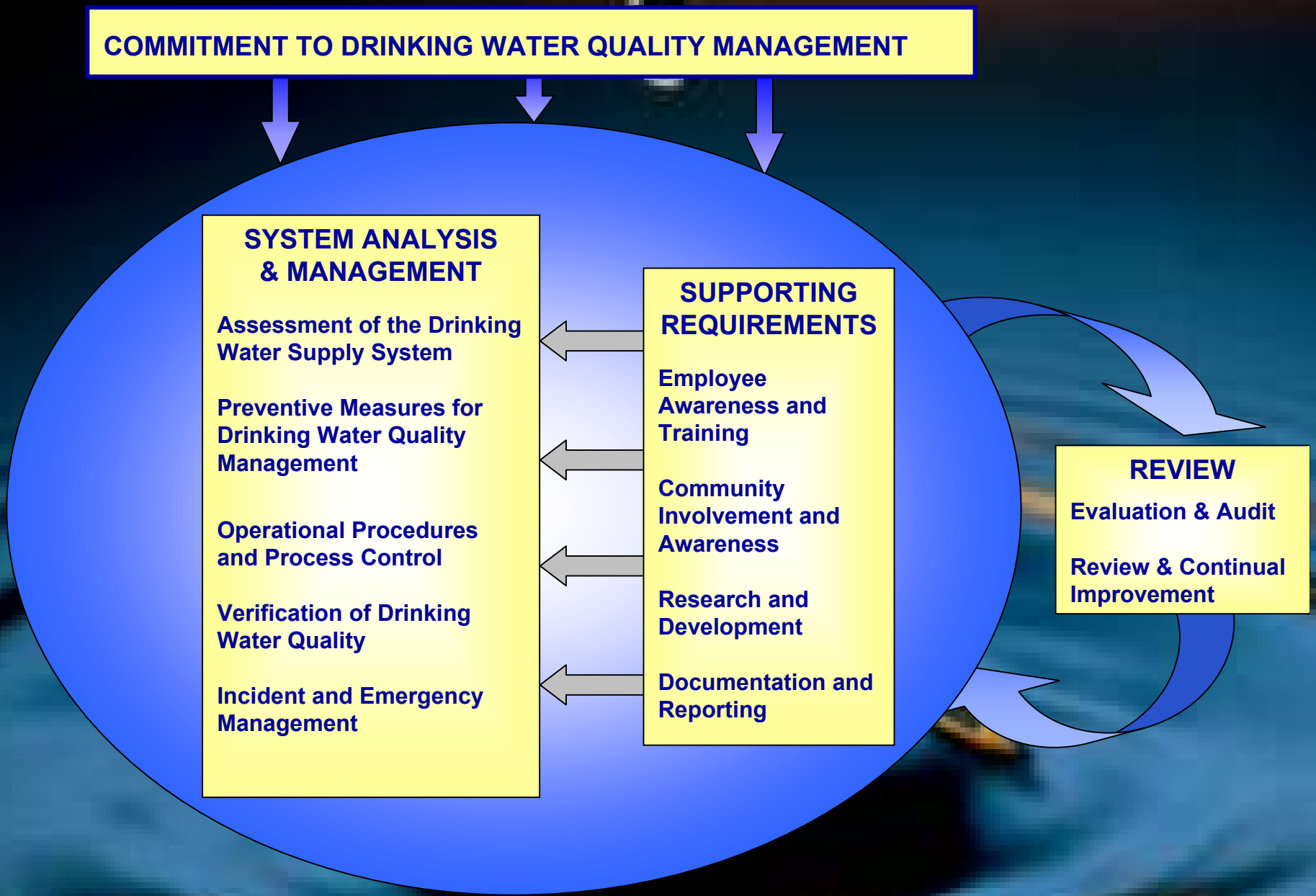
Sydney Water Incident – 1998 (boil water advice issued)

- The problem:
  "Contamination: water crisis grips Sydney", "Safe water: the big lie", "Zoo's water was better than ours" "Do panic! There's a bug in the water"
- Communication:
  "*Restricted warning a blunder*" "*Sydney Water Chairman threatened to sack health spokeswoman" "Verbal battle with health officials"*
- The cause:
  "$3bn treatment plants fail to target disease" "Dead dogs" "Drips running Sydney Water" "Bat droppings" "Lack of catchment care"
- The solution:
  "$100M ozone plant the only solution warns (Milwaukee)" "Sydney water will now be tested to the highest degree of safety in the world" "Remedy may cost $300M"
- The human element:
  "Broken public trust will take years to repair" "Nobody dead yet: Minister pleased" "Chief resigns" "Chairman resigns"

Response to Events

- **Recognition by water utilities and health agencies that regulation of safety requires the application of preventive risk management systems**
- **A *Framework for Management of Drinking Water Quality* was developed and incorporated in the *Australian Drinking Water Guidelines* (3-4 years)**
- **The *Framework* includes the HACCP principles and is consistent with ISO management systems. Like the WHO *Water Safety Plan* approach it is a purpose designed system to meet the particular requirements related to drinking water**

Framework for Management of Drinking Water Quality



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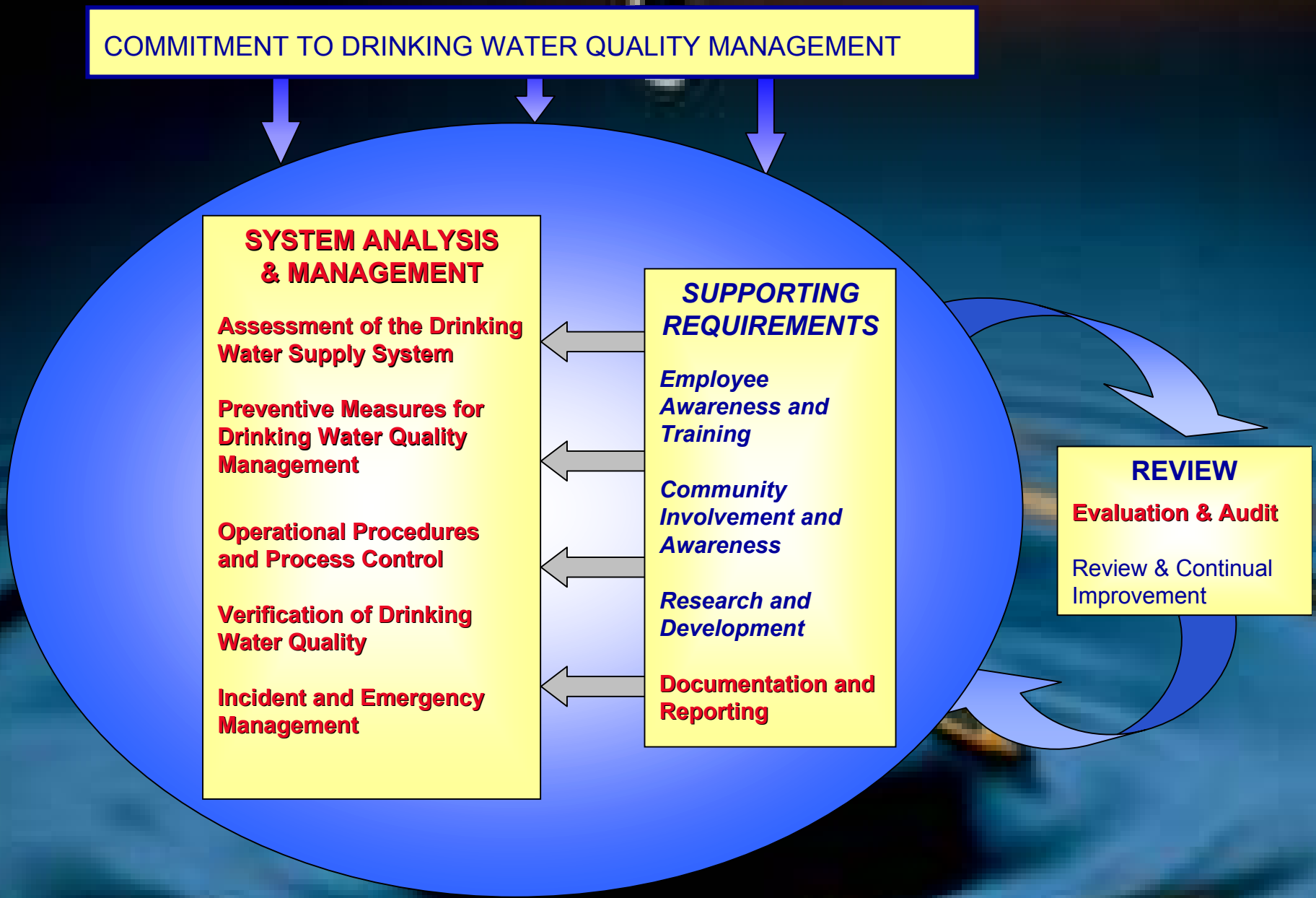

Features of the Framework

- A preventive management system that provides measurable assurance that safe drinking water is provided 24 hrs a day
- A coordinated catchment-consumer approach
- Identification of major hazards and risks and implementation of appropriate control measures
- An operational monitoring system designed to detect faults prior to supply of water and enable corrective actions to be implemented before unsafe water reaches consumers

Features of the Framework (contd)

- Verification including end-product compliance testing to demonstrate that the management systems is effective
- An incident and emergency protocol
- Regular reporting of normal performance
- A system that can be audited

Is this completely new ?

No

Well managed water utilities already apply most of the elements

Advantages of the Framework

- Provides a consistent approach that can be applied to all systems irrespective of size
- For larger supplies it organises existing procedures into a systematic and accessible package that can be easily communicated (operators, regulators and the public). Identifies gaps.
- For smaller “overlooked” supplies application provides a basic assessment of needs and an organizational structure
- A cost effective approach. Supply of safe drinking water is a vital health requirement but it is one component of protecting public health and providing community needs

Implementation of the Framework: Role of Regulators

- Assistance in hazard identification and risk assessment
- Input into identification of control measures and setting operational monitoring limits
- Assistance in the development of incident and communication protocols
- Assessment of the effectiveness of management systems
- Providing support to the water utility in communication with the public and with other agencies (particularly those involved with catchment management and urban planning)

Benefits to Regulators

- **Improved understanding of health risks. Greater confidence in the continuous management of drinking water quality**
- **An improved understanding of operational aspects of supplying drinking water and what can go wrong**
- **Greater cooperation with water agencies (penalties a last resort)**
- **Improved communication, better preplanning for incidents and more measured responses when needed**
- **Fewer surprises/unexpected disasters**

Application of Risk Management Systems in Australia

- **Strong support from water suppliers and health agencies (regulators).**
- **Capital cities have implemented risk management systems (some started with ISO or HACCP accreditation)**
- **Implementation has commenced in other urban centres and rural areas including remote indigenous supplies**
- **In Victoria implementation of a risk management plan will be required by legislation.**
- **Framework is being adapted to alternative water supplies (eg domestic rainwater tanks)**

Conclusions

Risk management systems are:

- **Proactive and preventive**
- **Supportive of existing good practice**
- **Cost effective and flexible (system specific)**
- **Aid communication**
- **Able to be audited**