

*The Geological Society of London  
Hydrogeological Group  
Landfill Hydrogeology 2008*

# **Environmental Monitoring and Management - Action or Distraction?**

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# Context

This is the last presentation before lunch

Landfill hydrogeological monitoring (groundwater / surface water / leachate) represents only 3 of the 10 key monitoring parameters undertaken by an Environment Team

What could be more difficult than taking a few samples to confirm the performance of any one site?

# Dynamic Tension

How do you manage:

150 sites (50 landfill); requiring  
8,000 wet samples/year and growing; with  
Spot or continuous data supply?

With such volume of work there is a:

Need for prescriptive scheduling;  
Need for timed assessment; but a  
Need for dynamic response when required

# What do we want to achieve?

A service that is

Consistent

Comprehensible

Informative

Professional/Accountable

Efficient

Timely

Every element of the “process” has to be examined

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# The Process

What we have been judged on?

Action

Legislation

Assessment

Documentation + Knowledge

Reporting

Scheduling

Analyse

Monitoring

Transport

What we are being judged on in 2008?

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# A Quick Reality Check

The environment is not stable

Data sets may have only commenced since permit issue

National inconsistency across sites for monitoring requirements

Strong focus on past prescriptive guidance

Desired regulatory standards may not be practically achievable

Culture of many participants is influenced by 20th Century experiences

Events may be beyond our reasonable control

# Changing Times: PPC / EP Drivers

CCS Scores

Whole System Analysis / Audit

Procedures

Calibration

Maintenance

Training / Competency Check

Speed of Delivery

Access to Records

All of which has led to an increase of the appreciation and value of environmental monitoring.

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# The Business Solution

To build a focussed team based on

Leadership – values/standards

Teamwork – training/knowledge sharing

Partnership – working with key industry partners

With professional, supportive and proactive dialogue  
with our regulators

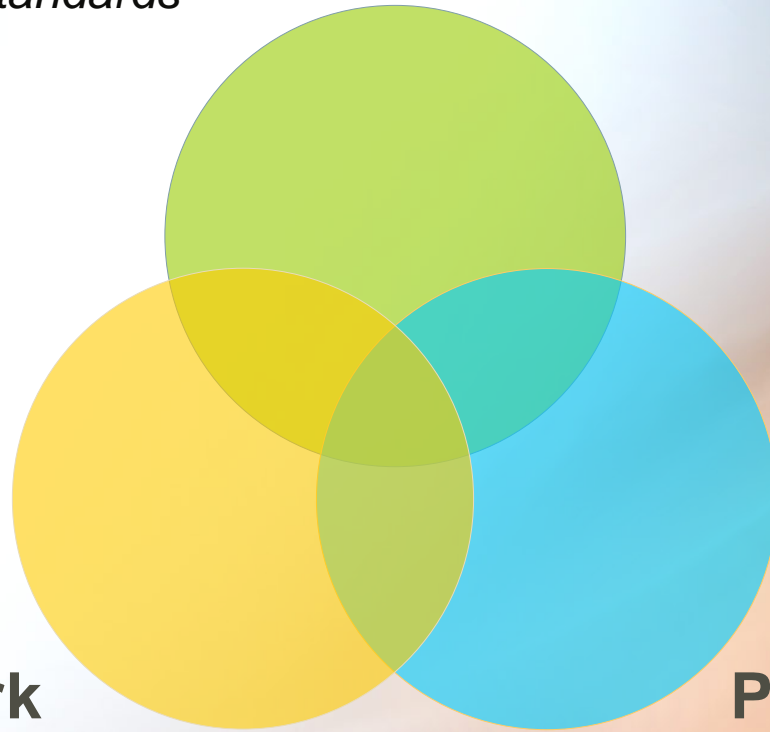
Learning from others - beyond a Waste Management  
Company's thinking



*Vision*  
*Values*  
*Strategy* **Leadership**  
*Standards*

*Training*  
*Education*  
*Intra Company*  
*Dialogue*  
*VWM Systems*  
*Redesign*

**Teamwork**



**Partnership**

*Field Teams*  
*Laboratories*  
*Consultants*  
*IS Providers*

# Easing the Communication Process?

Simple but fundamental steps have been designed to make the partnerships work including:

Common procedures

Common software systems and report formats

Designing 'one change instructions' transferable across companies.

Clear and contemporary performance contracts

Learning and sharing from successes and failures

# Use of Data Management Systems

We are benefiting from development of:

Common data management systems

Web enabled capture and exchange systems

Development of new tools for completeness checking, trend analysis

*But what about:*

Spot data and/or real time data processing

And historical reliance on 'unconditional' systems to report breaches

It is **essential** to have professional team players to think about and question what is being monitored.

# Breaching a Compliance Level: The Action or the Distraction

Does the Contingency Action Plan exist?

Can you demonstrate that you have done everything that is in the plan?

Is the detail explicit?

Is it within an reasonable period of time?

Are your expectations the same as others?

Are the control or trigger levels realistic?

# Breaching a Compliance Level: Historical Contingency Action Plan

Appropriate Contingency Actions	Following a Breach of a	
	Control Level	Trigger Level
Advise Unit Management	✓	✓
Advise Viridor Environment Manager	✓	✓
Advise Environment Agency via the PPC Schedule 6 Notification Process		✓
Confirm by repeat sampling and analysis	✓	✓
Review existing monitoring information	✓	✓
Review site management and operations, and implement actions to prevent future failure of a control level	✓	
Review the assumptions incorporated into the conceptual site model	✓	✓
Review existing hydrogeological risk assessment, control and trigger levels*	✓	✓
If risks are unacceptable set in place procedures for implementing corrective measures in consultation with or required by EA.		✓

# Breaching a Compliance Level: Revised Contingency Action Plan

Appropriate Contingency Actions	Following a breach of a	
	Control Level	Trigger Level
<b>Initial Actions*</b>		
<i>Advise Site Management</i>	Y	Y
<i>Advise Viridor Environment Management Team</i>	Y	Y
<i>Advise Environment Agency via Schedule 1 / 6 Route within 24 hours</i>		Y
<i>For first breach in period** - confirm by repeat sampling and analysis</i>		Y
<i>Review key performance monitoring information***</i>	Y	Y
<i>Review site management and operations, and implement actions to prevent future failure of a control level</i>	Y	
<b>Supplementary Actions*</b>		
<i>Notify Environment Agency of proposed programme and period of supplementary sampling/assessment to further quantify the non-compliance event</i>	Y	Y
<i>Review the assumptions incorporated into the conceptual site model etc etc</i>	Y	Y

# **Breaching a Compliance Level: The Action or the Distraction**

## **Positive Consequences**

Timely resampling/action to address uncertainty and ensure environmental protection

Commitment from the team to looking at the issue with urgency

Expansion of knowledge

Progress toward closure of the issue

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# Breaching a Compliance Level: The Action or the Distraction

## Negative Consequences

Repeated resampling/monitoring to confirm what you already know

Disillusionment of team

Repeated breach submissions reports can escalate action by others

Entrenchment of positions

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# Where do we go from here?

Focus on core data turnaround?

Focus on data security?

Streamlining of data scheduling?

Embrace of real time data capture?

Development of conditional compliance assessment techniques?

Targeted appropriate actions?

## But

Will we be faced with a rising tide of “distraction” as volume of data continues to rise?

# Closure

What is the real value of our data?

“Without data, you are just another person with an opinion”

Tim Bray – BPM, Veolia

It is **essential** to have professional team players to think about and question what is being monitored.

Thank to the team of people in Viridor who have been part of and leading the change over the past two years.

Thank you for your attention.

Chris Dussek, Viridor Waste Management

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