Environmental Monitoring and Management - Action or Distraction?

Chris Dussek
Environment Manager
Viridor Waste Management
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?

Clear Thinking, Effective Solutions
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

Clear Thinking, Effective Solutions
What do we want to achieve?

A service that is
Consistent
Comprehendible
Informative
Professional/Accountable
Efficient
Timely

Every element of the “process” has to be examined

Clear Thinking, Effective Solutions
The Process

What we have been judged on?

Action

Legislation

Assessment

Documentation + Knowledge

Scheduling

Analyse

Monitoring

Transport

Reporting

What we are being judged on in 2008?

Clear Thinking, Effective Solutions
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

Clear Thinking, Effective Solutions
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.

Clear Thinking, Effective Solutions
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

Clear Thinking, Effective Solutions
Clear Thinking, Effective Solutions

Leadership
- Vision
- Values
- Strategy
- Standards

Teamwork
- Training
- Education
- Intra Company Dialogue
- VWM Systems Redesign

Partnership
- Field Teams
- Laboratories
- Consultants
- IS Providers

Adapted from: Woodward, 2004
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

Clear Thinking, Effective Solutions
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?

Clear Thinking, Effective Solutions
# Breaching a Compliance Level: Historical Contingency Action Plan

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

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

Clear Thinking, Effective Solutions
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

Clear Thinking, Effective Solutions
Where do we go from here?

Focus on core data turnaround?  
Focus on data security?  
Streamlining of data scheduling?  
Embracement 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?

Clear Thinking, Effective Solutions
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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