



Animal &  
Plant Health  
Agency

# Improving Biosafety Culture: learning lessons from incidents

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Corporate Health and Safety Advisor

# Improving Biosafety Culture: Learning lessons

- Introduction and background
- Our incidents
- Lessons learnt
- Enforcement
- Biosafety plan, improving culture etc.
- Questions and answers

# Staff and facilities

## Staff - 600 in Science Directorate

- Consultant scientists and vets
- Post-doctoral researchers
- Students
- Scientists/ Vets/ Technical experts
- Specialist science policy advisors



# Staff and facilities

## Facilities

- High containment laboratory suites at BSL3 & 4 including high throughput testing for outbreak surge capacity
- Specialist suites for bacterial and viral pathogens
- Specialist pathology labs including PM suites at high containment
- Specialist animal facilities including high containment for large and small animals including wildlife species
- Low containment laboratories and offices



# Background: Our key activities

- **R&D**
  - to develop and improve the detection of animal disease and other threats
  - to develop controls and to prevent infection through the development of vaccines, enhanced biosecurity etc.
- **Consultancy** and advice to government policy-makers in all our areas of expertise



# Our Key Activities

## Field Activities:

Ecology- field studies, training, wildlife management

Non-native species

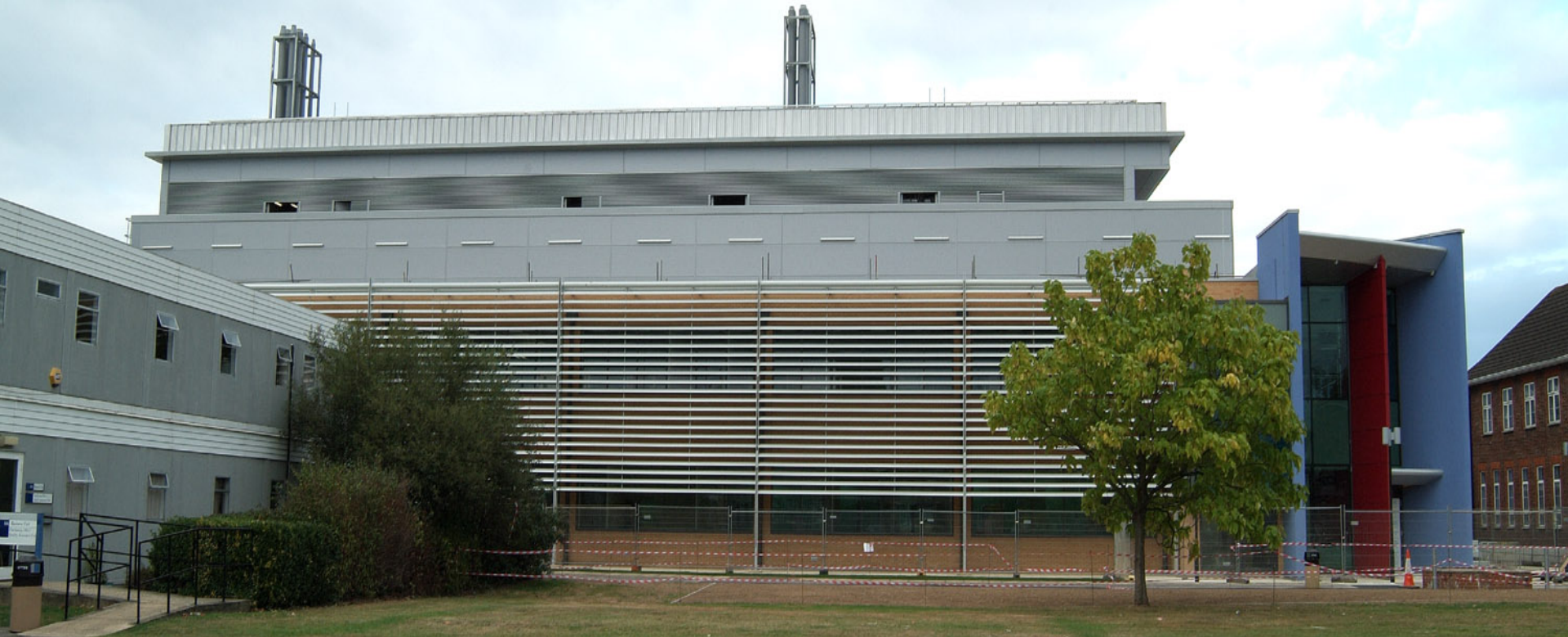
## On Farm investigations

- Diseases Situations
- New and emerging Diseases
- Food Safety incidents including chemical food safety



## APHA Weybridge – a national facility for emergency outbreak response

- including diseases in the Pirbright portfolio
- innovative “switchover” design
  - CL2 areas in peacetime, switched to CL4 in 48 hours



*The ‘Stewart Stockman’ BSL2/BSL3/BSL4 laboratory building*



**AHVLA Weybridge – extensive animal facilities**

- Livestock facilities, buildings at BS2, BSL3 and BSL4
- Full carcass disposal facilities



# A Round-the-Clock Reference Service



# Background

- A number of incidents occurred in 2014 highlighting some biosafety and health and safety issues – some APHA's & some relating to facilities management
- We have information from audits, inspections and other assurance work of issues which exhibit similar common underlying causes
- Our regulator (HSE) has identified a number of concerns and continue to investigate the incidents
- Subject to press scrutiny and attention of the Government Minister

<http://www.theguardian.com/science/2014/dec/04/-sp-100-safety-breaches-uk-labs-potentially-deadly-diseases>

# Health and Safety: Media (The Sun)

“Clumsy employee causes mass panic in Surrey”

## Lab evacuated after TB bacteria incident

Decontamination team called as worker accidentally smashes a flask of deadly bacteria

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Clumsy employee creates mass panic in Surrey

© Alamy

Decontamination team called as worker accidentally smashes a flask of deadly bacteria.

Click below to gain access the full article.



By TOM WELLS

 published  
13 hours ago

 comments  
0

# Health and Safety: Media – Daily Mirror 3/9/15

## TB scare at government lab after technician accidentally smashed flask containing killer disease

0 COMMENTS | 21:04, 3 SEPTEMBER 2015 | BY MIRROR.CO.UK

The facility in Surrey was closed down and employees in specialist protective suits were sent in to clear up, says report



An employee at a Government science lab sparked a deadly TB alert after they accidentally smashed a flask containing the bacteria.

The worker's blunder triggered an Outbreak-style chemical incident with the lab closed down and employees in specialist clean-up suits sent in to clear up the mess.

Officials feared the bacteria could have escaped through the sewer system or on the clothes of the employee who dropped the flask.

An inquiry into the incident at the lab in Weybridge, Surrey, found the sample of **cow TB**, which can transfer to humans, was stored at -80C at the bottom of a freezer.

It had been there for at least eight years and as the technician pulled it out the glass flask slipped through a paper bag and smashed on the floor.

# Notable Incidents 2014

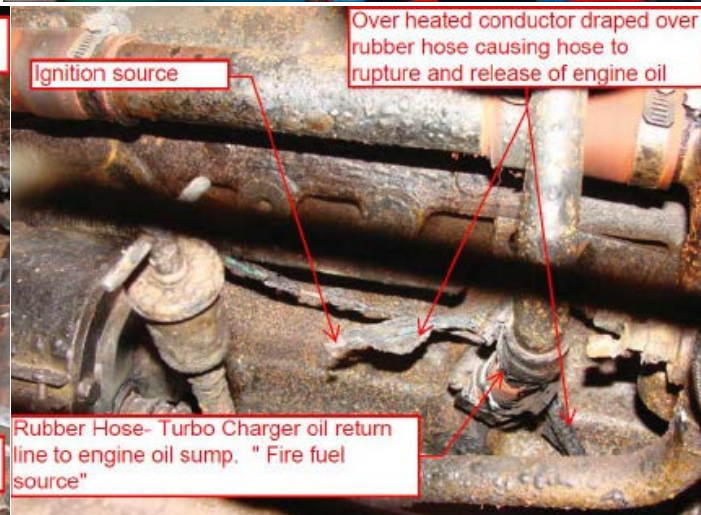
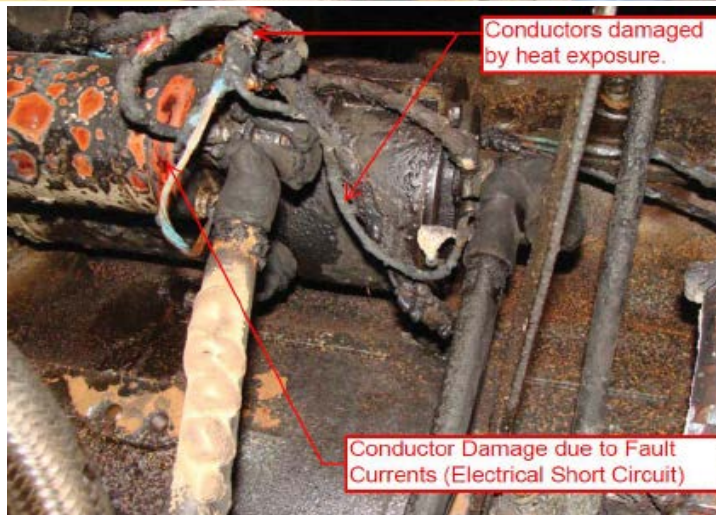
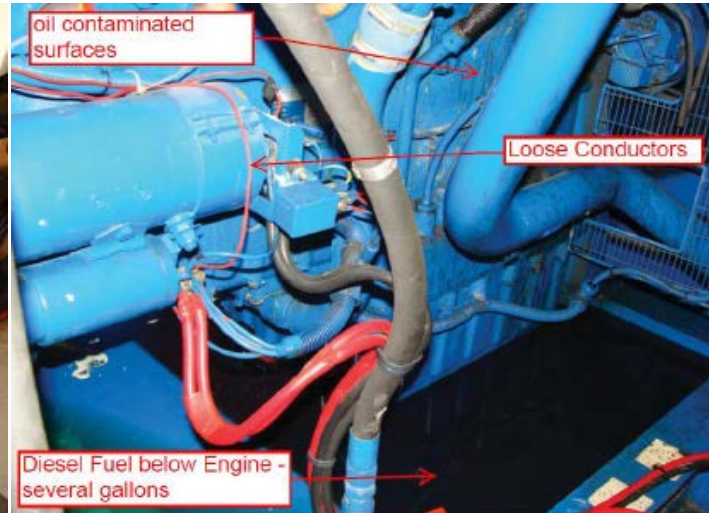
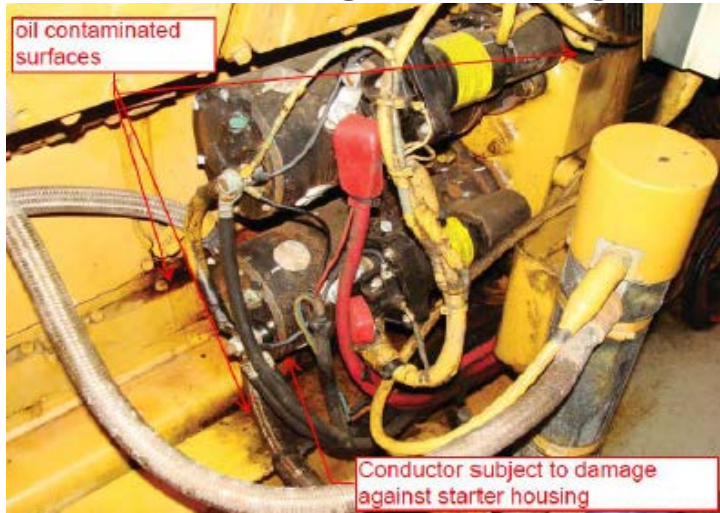
- Dropped glass vial in a BSL3 lab
- Prohibition notice re: no validated fumigation (BSL3)
- Power outage and generator failure x 4
- Leak incident building 268 (BSL3 animal facility)
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- Failure of air handling system building 268 (BSL3)
- Back up generator failure (December 2014)

# Dropped glass vial in a BSL3 lab

- Inventory check in freezer of a BSL3, working alone around 5.30pm
- Old sample of high titre *M.bovis* in glass Duran in a brittle bag
- Poorly marked / labelled
- Dropped and smashed (near a drain)
- Staff member panicked and ran out of containment for help
- Clean up with Head of Department



# Power outage and generator failures



# Leak incident building 268 (BSL3 animal facility)

- Hose (trigger clipped on) left on filling 80 litre tub (staff member busy went off to do something and forgot about it. No final end of shift sweep)
- Eventually (middle of the night) ETP 'high high' alarm triggered and registered at security gatehouse (but corrupted and not understood)
- Patrols missed visual beacon alarms
- Once identified response too little too late!



# Leak incident building 270 (BSL3 animal facility)

- Badly maintained water hoses and taps (levers) – employee thought the water was turned off but wasn't (held in due to trigger at end of hose)
- Hoses had been reported defective with the FM provider to replace and had been ordered 2 years previously
- Water pressure built up and burst hose
- Flooded facility and ETP high level alarm sounded and gatehouse security reported to shift engineer to investigate
- Shift engineer decided it could wait until when staff arrived in the morning

- Prohibition notice re: no validated fumigation (BSL3)



Health and Safety Executive

## Notice that work should be stopped (risk of serious injury) for Crown Employers

To:

ANIMAL HEALTH & VETERINARY LABORATORIES AGENCY

1 This is a formal notice to you that in the opinion of the Health and Safety Executive the activities named below involve or will involve a risk of serious personal injury and should be stopped. The Crown cannot be prosecuted for the contravention of any of the provisions of the Health and Safety at Work etc Act 1974, or any other of the relevant statutory provisions within the meaning of that Act, nor for the failure to comply with this notice. Nevertheless, failure to comply is a serious matter and will result in a formal approach from the Health and Safety Executive to an appropriate person with higher authority in your organisation or, if necessary, from the chairman of the Health and Safety Commission to the responsible Minister.

I am further of the opinion that the said matters involve contraventions of the following statutory provisions:

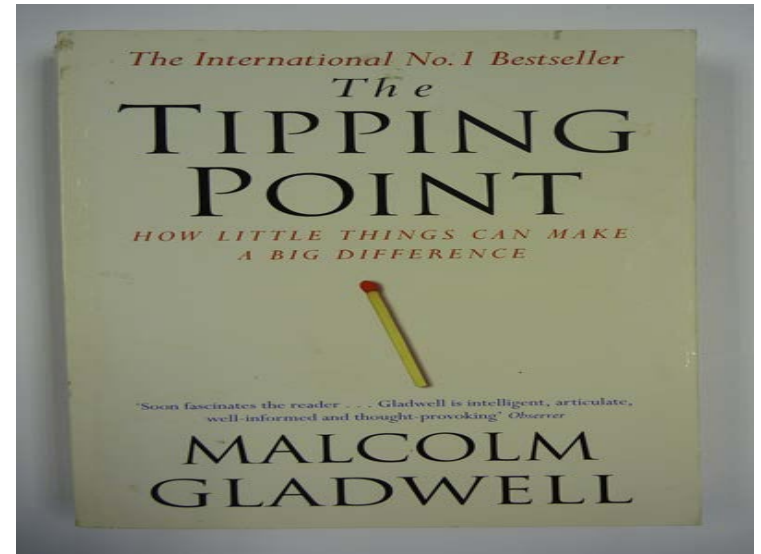
HEALTH & SAFETY AT WORK ETC ACT, 1974 - SECTION 2(1)  
CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH REGULATIONS, 2002  
REGULATION 7(1).

because

PERSONS ARE AT RISK OF EXPOSURE (AND THEREBY INFECTION) BECAUSE YOUR CURRENT SYSTEM FOR DISINFECTION (FUMIGATION WITH FORMALDEHYDE) IN THE EVENT OF A SIGNIFICANT SPILLAGE OF HAZARD GROUP 3 AGENTS OUTSIDE OF PRIMARY CONTAINMENT, HAS NOT BEEN VALIDATED AS EFFECTIVE.

# Lessons learnt

1. Not 'making do'
2. Emergencies and drills
3. Reporting and escalation
4. Small things matter!
5. Oversight and management of FM provider
6. Cutting corners and violations
7. Cultural improvement



# Biorisk plan

**Aim:** to improve culture, actions and behaviours

1. Training and competence – human factors
2. Standards
3. Safe Laboratory Framework
4. Alignment to CWA15792 Laboratory Biosafety Management standard
5. Enhanced SHaW Team – greater assurance
6. Good practice initiative

# Culture

1. Fair and just culture and model
2. Human factors training and implementation
3. Bureaucracy and reducing burdens – SoP's and risk assessments
4. Leadership
5. Great assurance, confidence and comfort
6. Better management of staff and work

# APHA Agency Approach 2015 - 2016

## Policy

The Agency wants a 'just culture' where a balance is struck between accountability and learning lessons particularly when things go wrong.

While we will not seek to apportion blame for accidents and incidents, a knowing and wilful disregard of health and safety at any time is a breach of contract and may be subject to investigation and disciplinary actions as appropriate.

# Fair and just model

BEHAVIOUR	Exceptional health and safety behaviour over and above the call of duty (without compromising health and safety) including saying 'no' or walking away i.e. not doing something	Expected behaviour. All procedures etc. followed and APHA health and safety behaviour and actions observed	Unintentional error (slip, lapse, mistake) where the individual just made a mistake or error	Routine first violation / non-compliance. Individual and others normally do it in this way.	Second or subsequent violation. Serious violation / non-compliance where the individual knowingly took short cuts / broke rules / procedures. Failure to meet responsibilities	Any reckless violation (wilful disregard of health and safety). Gross failure to meet responsibilities
Action	<ul style="list-style-type: none"> <li>Local recognition award to be considered</li> <li>Share story with the wider team</li> <li>Record as good practice / Lessons Learnt to share across APHA</li> <li>Capture of good practice examples on APHA intranet</li> </ul>	<ul style="list-style-type: none"> <li>Recognise and comment on as good practice</li> <li>Re-enforce good practices and share as appropriate</li> </ul>	<ul style="list-style-type: none"> <li>Identify root cause of error, slip, lapse or mistake</li> <li>Take action to address root cause e.g. workload, breaks etc.</li> <li>Reinforce responsibilities</li> <li>Consider lessons learnt</li> </ul>	<ul style="list-style-type: none"> <li>Manager to discuss with individual and team, procedures and how violation(s) can be prevented in future</li> <li>Reinforce responsibilities, behaviours and actions</li> </ul>	<ul style="list-style-type: none"> <li>Follow discipline policy process (from Matter arises)</li> <li>Manager conducts initial fact-finding and decides likely level of alleged misconduct minor/serious/gross</li> </ul>	<ul style="list-style-type: none"> <li>Follow discipline policy process (from Matter arises)</li> <li>Manager conducts initial fact-finding and decides likely level of alleged misconduct minor/serious/gross</li> </ul>

# Fair and just model

<p>BEHAVIOUR</p>	<p>Managers setting an exemplar standard e.g. in the oversight, supervision, monitoring and engagement with staff</p>	<p>Expected behaviour. Managers ensure (through supervision, monitoring etc.) procedures etc. are followed and APHA health and safety behaviour and actions observed.</p>	<p>Inadequate management of staff, resources, work etc. due to unintentional error, lapse or mistake by manager</p>	<p>Inadequate (minor failure but some failure) supervision and monitoring of staff, working practices and working environments. Any failure in manager responsibilities including not seeking to identify violations.</p>	<p>Manager failing to take action in respect to violations or known health and safety concerns including not escalating any health and safety action (timely). Any serious failure of manager responsibilities</p>	<p>Manager condoning reckless violation or not intervening to prevent such. Any gross failure to meet manager responsibilities</p>
<p>Action</p>	<ul style="list-style-type: none"> <li>Local recognition award to be considered</li> <li>Share story with the wider team</li> <li>Record as good practice / Lessons Learnt to share across APHA</li> <li>Capture of good practice examples on APHA intranet</li> <li>Recognise in appraisals</li> </ul>	<ul style="list-style-type: none"> <li>Recognise and comment on as good practice</li> <li>Recognise in appraisal</li> <li>Re-enforce good practices and share as appropriate</li> </ul>	<ul style="list-style-type: none"> <li>Identify root cause e.g. of not adequately supervising or monitoring staff and work</li> <li>Take action to address root cause e.g. conflicting priorities.</li> <li>Reinforce management responsibilities</li> <li>Lessons learnt</li> </ul>	<ul style="list-style-type: none"> <li>Senior manager or Director to discuss with manager the importance of discharging their duties and responsibilities</li> <li>Reinforce responsibilities, behaviours and actions needed</li> </ul>	<ul style="list-style-type: none"> <li>Follow discipline policy process (from Matter arises)</li> <li>Senior Manager conducts initial fact-finding and decides likely level of alleged misconduct minor/serious /gross</li> </ul>	<ul style="list-style-type: none"> <li>Follow discipline policy process (from Matter arises)</li> <li>Senior Manager conducts initial fact-finding and decides likely level of alleged misconduct minor/serious /gross</li> </ul>



# Health and Safety Commitment

From Chris Hadkiss APHA CEO

“My number one priority is health and safety. A ‘good employee’ is not somebody who works long hours and / or puts themselves at undue risk.

A good employee works in a safe and healthy manner and manages their work and risk in a sensible and proportionate way”.

# QUESTIONS?



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