UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND

Confidence Building Measure Return for 2009
(covering data for 2008)
for the
Convention on the Prohibition of the
Development, Production and Stockpiling of
Bacteriological (Biological) and Toxin Weapons
and their Destruction, 10 April 1972

Submitted to the United Nations
on 3 April 2009
### DECLARATION FORM ON NOTHING TO DECLARE OR NOTHING NEW TO DECLARE FOR USE IN THE INFORMATION EXCHANGE

<table>
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<tr>
<th>Measure</th>
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(Please mark the appropriate box(es) for each measure, with a tick.)

Date: 3 April 2009

State Party to the Convention: United Kingdom of Great Britain and Northern Ireland
Form A Part 1

Exchange of data on research centres and laboratories

1. **Names(s) of facility**
   - Defence Science and Technology Laboratory (Dstl), Porton Down.
   
   *Declared in accordance with Form A Part 2(iii)*

2. **Responsible public or private organisation or company**
   - Ministry of Defence

3. **Location and postal address**
   - Dstl
   - Porton Down
   - Salisbury
   - Wiltshire
   - SP4 0JQ

4. **Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence**
   - Largely financed by the MOD.

5. **Number of maximum containment units**
   - 2 BL4 labs, 256 m² total

6. **If no maximum containment unit, indicate highest level of protection**
   - Not Applicable

7. **Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate**
   - Research and development into protective measures as defence against the hostile use of micro-organisms and toxins.

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1. The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately
2. For facilities with maximum containment units participating in the national biological defence research and development program, please fill in name of facility and mark “Declared in accordance with Form A, Part 2(iii)”.
3. In accordance with the 1983 WHO Laboratory Biosafety Manual, or equivalent
### Exchange of data on research centres and laboratories

1. **Name(s) of facility**
   
   Health Protection Agency, Colindale

2. **Responsible public or private organization or company**
   
   Health Protection Agency (a non-departmental public body of the UK Department of Health)

3. **Location and postal address**
   
   61 Colindale Avenue
   London
   NW9 5EQ

4. **Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence**
   
   The Department of Health funds this activity as part of its finance of the Health Protection Agency’s Centre for Infections at Colindale, London NW9

5. **Number of maximum containment units** within the research centre and/or laboratory, with an indication of their respective size (m²)
   
   1 high containment unit: 30 m²

6. **If no maximum containment unit, indicate highest level of protection**
   
   Not Applicable

7. **Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate**
   
   Laboratory is used to provide diagnostic services for Herpes B; viral haemorrhagic fever infections: Lassa fever, Ebola, Marburg, Congo-Crimean haemorrhagic fever; avian influenza and SARS. To support diagnostic services a programme of applied diagnostic research and development is conducted.

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1. The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately
2. For facilities with maximum containment units participating in the national biological defence research and development program, please fill in name of facility and mark “Declared in accordance with Form A, Part 2(iii)”.
3. In accordance with the 1983 WHO Laboratory Biosafety Manual, or equivalent
Exchange of data on research centres and laboratories

1. **Name(s) of facility**
   Health Protection Agency, Centre for Emergency Preparedness and Response, Porton Down

2. **Responsible public or private organization or company**
   Health Protection Agency (a non-Department public body of the UK Department of Health)

3. **Location and postal address**
   Porton Down
   Salisbury
   Wiltshire
   SP4 0JG

4. **Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence**
   The Department of Health funds this activity as part of its finance of the Health Protection Agency’s Centre for Emergency Preparedness and Response at Porton Down.

5. **Number of maximum containment units within the research centre and/or laboratory, with an indication of their respective size (m²)**
   2 units: 59 m²; 46 m²

6. **If no maximum containment unit, indicate highest level of protection**
   Not Applicable- the site has CL4 laboratories as in Q5

7. **Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate**
   Diagnosis and research into various containment level 4 viruses including Lassa, Ebola, Marburg and other haemorrhagic fever viruses.

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1 The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately
2 For facilities with maximum containment units participating in the national biological defence research and development program, please fill in name of facility and mark “Declared in accordance with Form A, Part 2(iii)”.
3 In accordance with the 1983 WHO Laboratory Biosafety Manual, or equivalent
Form A Part 1

Exchange of data on research centres and laboratories

<table>
<thead>
<tr>
<th></th>
<th>Name(s) of facility³</th>
<th>National Institute for Biological Standards and Control</th>
</tr>
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<tbody>
<tr>
<td>2</td>
<td>Responsible public or private organisation or company</td>
<td>Non-departmental public body of the UK Department of Health</td>
</tr>
<tr>
<td>3</td>
<td>Location and postal address</td>
<td>Blanche Lane South Mimms Potters Bar Herts EN6 3QG</td>
</tr>
<tr>
<td>4</td>
<td>Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence</td>
<td>UK Government (Department of Health and the Home Office)</td>
</tr>
<tr>
<td>5</td>
<td>Number of maximum containment units³ within the research centre and/or laboratory, with an indication of their respective size ($m^2$)</td>
<td>Two containment level 4 units, each of 59 $m^2$</td>
</tr>
<tr>
<td>6</td>
<td>If no maximum containment unit, indicate highest level of protection</td>
<td>Not applicable</td>
</tr>
<tr>
<td>7</td>
<td>Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate</td>
<td>Highly pathogenic influenza virus – reagent development Smallpox vaccine – developing and testing reagents <em>Bacillus anthracis</em> – vaccine testing, reagent development, development of in vitro assays to detect anthrax toxin neutralising antibodies <em>Yersinia pestis</em> – molecular structural work Botulinum toxins (serotypes A-G) - control, standardisation and assay development for vaccines and anti-toxins</td>
</tr>
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In general, the activities are related to development of assays and testing of reagents.

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¹ The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately
² For facilities with maximum containment units participating in the national biological defence research and development program, please fill in name of facility and mark “Declared in accordance with Form A, Part 2(iii)”.  
³ In accordance with the 1983 WHO Laboratory Biosafety Manual, or equivalent

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6
Exchange of data on research centres and laboratories

1. Name(s) of facility
   NIMR Containment 4 Building C

2. Responsible public or private organisation or company
   National Institute for Medical Research

3. Location and postal address
   The Ridgeway
   Mill Hill
   London
   NW7 1AA

4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence

   Medical Research Council

5. Number of maximum containment units within the research centre and/or laboratory, with an indication of their respective size (m²)

   1 BL4 containment unit of 298 m²

6. If no maximum containment unit, indicate highest level of protection

   Not applicable

7. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate

   Research and diagnostics on highly pathogenic avian influenza virus

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1 The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately
2 For facilities with maximum containment units participating in the national biological defence research and development program, please fill in name of facility and mark “Declared in accordance with Form A, Part 2(iii)”.
3 In accordance with the 1983 WHO Laboratory Biosafety Manual, or equivalent
Exchange of data on research centres and laboratories

1. Name(s) of facility Institute for Animal Health, Pirbright Laboratory

2. Responsible public or private Biotechnology and Biological Sciences Organisation or company Research Council (BBSRC)

3. Location and postal address Institute for Animal Health Pirbright Woking Surrey GU24 0NF

4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence

BBSRC, EU, Department for Environment, Food and Rural Affairs (Defra). (Not funded by the Ministry of Defence).

5. Number of maximum containment units within the research centre and/or laboratory, with an indication of their respective size (m²)

No ACDP* Level 4* containment 12 m² ACDP Level 3 containment 2,585 m² of SAPO** Level 4 ACDP2 laboratory space 3,232 m² of SAPO4 ACDP2 animal accommodation

* Advisory Committee on Dangerous Pathogens
** Specified Animal Pathogens Order

6. If no maximum containment unit, indicate highest level of protection

SAPO4 ACDP2 containment

7. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate

Work on exotic animal virus disease: Foot and mouth disease, bluetongue, swine vesicular disease, African Horse Sickness, Capripox, African Swine Fever, PPR and rinderpest.

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1 The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately
2 For facilities with maximum containment units participating in the national biological defence research and development program, please fill in name of facility and mark “Declared in accordance with Form A, Part 2(iii)”.
3 In accordance with the 1983 WHO Laboratory Biosafety Manual, or equivalent
Exchange of data on research centres and laboratories

1. Name(s) of facility
   Veterinary Laboratories Agency

2. Responsible public or private organisation or company
   Department for Environment, Food and Rural Affairs (Defra)

3. Location and postal address
   Woodham Lane
   Addlestone
   Surrey,
   KT15 3NB

4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence

   Most funding is through Defra. None is funded by the Ministry of Defence.

5. Number of maximum containment units within the research centre and/or laboratory, with an indication of their respective size (m²)

   SAPO* Level 4 (Defra)
   3 x Avian Flu laboratories 1 = each 50 m²
   1 x Classical swine fever laboratory = 15 m²
   1 x Newcastle diseases virus laboratory = 50 m²
   1 x Rabies virus laboratory = 45 m²
   1 suite of Serology laboratories capable of increasing to SAPO level 4 but which usually run at ACDP level 2 = approximately 100 m²

   * Specified Animal Pathogens Order

6. If no maximum containment unit, indicate highest level of protection

   29 CL3 laboratories totalling 2,129 m².
   Advisory Committee on Dangerous Pathogens (ACDP) level 3. These laboratories cannot be operated at the higher level of containment.

7. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate

   Diagnosis and applied research on the epidemiology and pathology of the disease of farmed, domesticated livestock (cattle, sheep, pigs and poultry) and wild animal reservoirs. Bacteria and viruses in ACDP hazard groups 1-4, GM class 1-4 and SAPO groups 1-4.

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1 The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately
2 For facilities with maximum containment units participating in the national biological defence research and development program, please fill in name of facility and mark “Declared in accordance with Form A, Part 2(iii)”.
3 In accordance with the 1983 WHO Laboratory Biosafety Manual, or equivalent
Exchange of data on research centres and laboratories

1. Name(s) of facility²
   Merial Animal Health, Pirbright Laboratory

2. Responsible public or private organization or company
   Merial Animal Health Ltd.

3. Location and postal address
   Ash Road
   Pirbright
   Surrey,
   GU24 ONQ

4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence
   Private finance. (No Ministry of Defence funding)

5. Number of maximum containment units³ within the research centre and/or laboratory, with an indication of their respective size (m²)
   1 x SAPO 4

6. If no maximum containment unit, indicate highest level of protection
   Defra SAPO 4

7. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate
   Production of inactivated FMD and Bluetongue vaccines for protection of animals

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¹ The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately
² For facilities with maximum containment units participating in the national biological defence research and development program, please fill in name of facility and mark “Declared in accordance with Form A, Part 2(iii)”.
³ In accordance with the 1983 WHO Laboratory Biosafety Manual, or equivalent
Exchange of data on research centres and laboratories

1. **Name(s) of facility**\(^2\)  
   Intervet Schering-Plough

2. **Responsible public or private organization or company**  
   Intervet Schering-Plough

3. **Location and postal address**  
   Walton Manor  
   Walton  
   Milton Keynes  
   MK7 7AJ

4. **Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence**  
   Privately funded

5. **Number of maximum containment units**\(^3\) within the research centre and/or laboratory, with an indication of their respective size (m\(^2\))  
   Not applicable (refer to section 7)

6. **If no maximum containment unit, indicate highest level of protection**  
   Not applicable (refer to section 7)

7. **Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate**

   The original notification by Schering-Plough Animal Health, Breakspear Road South Harefield, Uxbridge, Middlesex, UB9 6LS was for the storage of Newcastle disease virus - a Specified Animal Pathogen Group 4 at that location. When the laboratories of Schering-Plough were relocated to the Milton Keynes premises of Intervet Schering-Plough in November 2008, all stocks of Newcastle disease virus were destroyed by autoclaving and then incineration. The SAPO license to hold Newcastle disease virus has been surrendered.

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\(^1\)The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately.

\(^2\)For facilities with maximum containment units participating in the national biological defence research and development programme, please fill in name of facility and mark "Declared in accordance with Form A, part 2 (iii)".

\(^3\)In accordance with the 1983 WHO Laboratory Biosafety Manual, or equivalent
National Biological Defence Research and Development Programme Declaration

1. Is there a national programme to conduct biological defence research and development within the territory of the State Party, under its jurisdiction or control anywhere? Activities of such a program would include prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination and other related research.

Yes

If the answer to (1) is Yes, complete Form A, Part 2 (ii) which will provide a description of the program.

Two Forms A, Part 2 (ii) are provided detailing programmes funded by the Ministry of Defence at (a) and the Home Office at (b).
(a) **National Biological Defence Research and Development Programme**

**Description**

1. State the objectives and funding of the programme and summarize the principal research and development activities conducted in the programme. Areas to be addressed shall include: prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxicology, physical protection, decontamination and other related research.

The objectives of the UK MOD biological defence research and development programme reflect the Defence Strategic Guidance 2008 (DSG) and the Government’s CBRN Defence Policy Framework document which underlines the UK’s Policy aspiration to maintain our political and military freedom of action despite the presence, threat or use of biological, chemical or radiological agents.

The Vision of Defence Capability in this area has been defined as the delivery of cross Defence Lines of Development (DLoD), military capability to minimise the impact to operations of the CBRN threat, by managing risk and utilising a coherent basket of CBRN capabilities tailored to suit the context. The keys to success are the economies of resource and synergies that can be exploiting true cross DLoD capability development and Through Life Capability Management (TLCM). This will enable creative and innovative solutions to be delivered to mitigate clearly defined problems.

**Hazard Assessment**

CBRN Hazard Assessment maintains the ability to provide an effective assessment of the current and developing CBRN hazard and is thus the bedrock on which sound CBRN defence is built. It requires the evaluation of the range of potential biological and toxin agents that might be utilised by a potential aggressor. The information generated helps define defence strategy, concepts and doctrine, as well as identifying the required performance of protective equipment. Therefore Hazard Assessment is an essential enabler to the CBRN capability.

Such studies necessarily involve activities such as consideration of the agents’ potency and dissemination characteristics, their aerobiology and the way in which they might be utilised by an aggressor in military and terrorist scenarios. This includes the potential impacts of genomics and proteomics. This work is essential to determine the challenge levels against which detectors, protective equipment and countermeasures must be effective. Current work includes studying the inhalation toxicity of a range of materials and the aerosol survival of pathogenic bacteria and viruses.

**Detection and diagnostics**

The ability to detect the presence or release of BTW agents across the battlespace is crucial in providing timely warning to military personnel to allow them to adopt the appropriate protective posture and avoid casualties. In 2008 work has focussed on technologies for improved sample collection, non-specific detection (to detect particulate material), generic detection (to distinguish between biological and non-biological materials) and specific identification (to identify the material). The objective is to develop point detection systems that are man portable and impose less logistic burden than current systems.
The Portable Integrated Battlespace Biological Detection Technology is now being developed by industry. Technology options to provide area surveillance for BTW using stand-off detection based on LIDAR technology or networks of point sensors, has continued.

Technologies for the specific identification of BTW currently rely on the use of Biological Recognition Elements, such as antibodies and gene probes. The research programme has continued to develop specific antibodies - recombinant, monoclonal and polyclonal – to extend the range of potential BTW agents than can be identified. Testing is conducted in the laboratory by assessing the binding of the BTW agent to the generally immobilised antibody, monitored either through a linked colour change (e.g. Dipsticks) or electronically (biosensors).

Gene probe-based technology offers highly sensitive and specific assays for the identification of BTW agents like bacteria and viruses. Work is continuing in order to accelerate and simplify the methodology thus rendering it suitable for military use. Rapid PCR systems have been developed so that this technology can be used in field situations. In addition, similar technologies are also being investigated for use in medical diagnostic systems.

The research programme has continued to assess whether biological mass spectrometry technology could offer unambiguous detection and identification of BTW agents with a significant reduction in whole life costs.

**Protection**

The dissemination of BTW agents by an aggressor is likely to result in the production of particulate aerosols. Effective individual and collective protection (COLPRO) requires the prevention of the inhalation of this particulate challenge or its contact with the skin of personnel. Individual Protective Equipment (IPE) consists of a respirator and suit while collective protection systems provide isolation from a BW agent challenge in the form of whole buildings, rooms, ships or vehicles.

Current research focuses on providing IPE with effective levels of protection but with significantly reduced physiological loading compared with in-service equipment. This involves the development of new materials, integrating the materials into protective suit ensembles, and assessing the performance of the ensembles using non-pathogenic micro-organisms.

COLPRO research aims to design systems that provide the required levels of protection but pose a lower logistical burden on the user. This includes assessing the potential of Commercial off the Shelf (COTS) systems to meet the requirements of UK Armed Forces, including Rapid strike, Light weight and low power requirement as well as incorporating protection into general purpose tentage.

**Medical Countermeasures**

The medical countermeasures (MedCM) programme seeks to determine the efficacy of vaccines, antibiotics, antivirals and antitoxins for the prevention of disease caused by BW agents.

The current suite of in-service MedCM offers a capability which does not protect against all BW agents. In some cases, no licensed MedCM are available and in others the in-service provision provides protection against lethality, but not incapacitation. Opportunities for using commercial-off-the-shelf (COTS) MedCM are extremely limited. Where no COTS solutions exist, and there is a realistic prospect of identifying feasible candidate MedCM, additional research has been performed to establish ‘proof-of-principle’ for potential interventions. Before COTS products or other medical interventions can be recommended, evidence base for their use in the treatment of personnel exposed to CBR agents has been assessed.
Programmes have continued to devise improved vaccines against tularemia (caused by *Francisella tularensis*) and melioidosis/glanders (caused by *Burkholderia pseudomallei/mallei*). In the case of *Francisella tularensis* the programme has been reduced through reliance on a major US NIH programme on attenuated mutant vaccine candidates. A small risk-mitigation programme has continued at Dstl to assess LPS subunit vaccines in collaboration with academia and industry. For *Burkholderia pseudomallei/mallei* the focus is to devise a sub-unit vaccine. LPS and proteins are currently being evaluated to test the optimal combination. Attenuated mutants of *Burkholderia pseudomallei* are not considered to be good vaccine candidates, but are valuable for investigating the nature of the protective immune response. These vaccines will be tested using inhalation challenge models of disease. Assessment of candidate anti-toxins against ricin and SEB have continued, assessing efficacy, safety and acceptability. Ricin anti-toxin is approaching Clinical Trials and has attracted Home Office support.

The programme to explore the development of broad-spectrum BW countermeasures has continued, including therapies against *Brucella*, VEEV and Filoviruses. It has three broad elements: to investigate the up-regulation of the innate immune system, for example through immunomodulator stimulation; to determine whether there are cross-protective antigens or common mechanisms of virulence shared by different BW agents; and, to identify broad spectrum antimicrobials. Antibiotics and antivirals, which are newly emerging from industry, are being tested to investigate whether they are effective against a wide range of candidate BW agents.

Projects to identify how animal models of disease can be replaced with in vitro assays, cell or organ culture systems are continuing.

**Hazard Management**

The ability to decontaminate personnel, materiel and infrastructure once an aggressor has dispersed BW agents is a key element to hazard management and restoring operational tempo. Research aims to develop low logistic burden approaches for decontamination of BW agents based on liquid formulations, strippable coatings, and reactive gases. Validated test methodologies for determining the efficacy of these decontamination processes are also being developed in parallel.

**Arms Control**

Dstl staff at Porton Down provide technical advice on CBW non-proliferation to the Ministry of Defence and the Foreign and Commonwealth Office as well as to other Government Departments involved in formulating and implementing UK policy on non-proliferation matters. This has included working towards and participating in: the Review Conferences of the BTWC; the Ad Hoc Group of Governmental experts tasked with identifying and examining potential verification measures; the Special Conference of States Parties held in September 1994; the BTWC Ad Hoc Group; and, the annual Meetings of Technical Experts and of States Parties during the intersessional programmes of work following the 5th and 6th Review Conferences.

Dstl staff assist in collating data for the UK Confidence Building Measures returns and provide technical advice towards the formulation and execution of policy on export control legislation, covering items related to biological weapons proliferation in foreign countries.

Dstl staff also assist the Department of Energy and Climate Change (DECC) in its role as the UK National Authority for the Chemical Weapons Convention, providing technical support over declarations, licensing, and inspections. Dstl operates the UK’s Single Small Scale Facility at Porton Down, which has been declared under the CWC.
Dstl staff are also involved in the Ministry of Defence Counter-Proliferation and Security Cooperation Section’s non-proliferation programme which seeks to redirect foreign former weapons scientists into sustainable employment and peaceful science.

2. **State the total funding for the program and its source.**

The UK national biological defence research and development programme is concerned with the provision of effective measures for the UK and its Armed Forces against the threat that chemical and biological weapons may be used against them. The total UK expenditure on research and development on biological defence for the protection of the UK and its armed forces against micro-organisms and toxins in the fiscal year, April 1st 2008 - March 31st 2009, is forecast to be £57M. This includes £10.1 for work as project support to the procurement of armed forces biological defence equipment.

3. **Are aspects of this program conducted under contract with industry, academic institutions, or in other non-defence facilities?**

Yes.

4. **If yes, what proportion of the total funds for the program is expended in these contracted or other facilities?**

During the fiscal year April 1st 2008 to March 31st 2009, a total of 100 extramural contracts were placed. Of these 45 extramural contracts on research and development aspects relating to biological defence were in place with universities and other academic institutions, and 55 extramural contracts with other bodies, which are either government funded or industrial companies. Funding for these extramural contracts during the fiscal year totalled approximately £11.6M. This represents 20% of the total UK expenditure in the fiscal year on research and development on biological defence. The duration of individual contracts varies from a few months to three or four years, and in a few cases they include periods of work at Dstl. The precise institutions and companies are constantly varying as they are selected according to the needs of the defence programme and the availability of the necessary specialist skills.

5. **Summarise the objectives and research areas of the program performed by contractors and in other facilities with the funds identified under para 4.**

Contracts are let on specific research topics in support of the main research programme carried out at Dstl.

6. **Provide a diagram of the organisational structure of the program and the reporting relationships (include individual facilities participating in the program).**

Policy for biological and chemical defence is determined by the Ministry of Defence with the Director of Chemical, Biological, Radiological and Nuclear Policy (CBRN Pol) as the focus. The Counter-Proliferation and Security Cooperation (CPSC) section determines policy on CB arms control. The goals and individual objectives of the research programme are determined by the Ministry of Defence (MOD), with the Programme Leader CBRN (PL CBRN) within the Defence Technology & Innovation Centre (DTIC) of the MOD Science Innovation and Technology (SIT) branch being responsible for managing the planning, contracting and delivery of the research programme. The Director Equipment Capability CBRN (DEC CBRN) is responsible for the development of CBRN Defence capability and is the customer focus for the output from the research programme. Acquisition of tri-service CBRN protective equipment is carried out by the CBRN Integrated Project Team (CBRN IPT) and the Medical and General Supplies IPT is responsible for the acquisition of CBRN medical countermeasures. Research at Dstl, Porton...
Down, is undertaken in response to the requirements of these customers within MOD, and Dstl provides technical and policy advice as appropriate.

7. **Provide a declaration in accordance with Form A Part 2 (iii) for each facility, both governmental and non-governmental, which has a substantial proportion of its resources devoted to the national biological research and development program, within the territory of the reporting State, or under its jurisdiction or control anywhere.**

The only UK facility which has a substantial proportion of its resources devoted to the national biological defence research and development programme is Dstl, for which a declaration is made on Form A Part 2(iii).
(b) **National biological defence research and development programme**

**Description**

1. State the objectives and funding of the programme and summarize the principal research and development activities conducted in the programme. Areas to be addressed shall include: prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinochemistry, physical protection, decontamination and other related research.

The Home Office programme is aimed at enhancing the UK’s capability to minimise the risk of a CBRN terrorist incident.

2. State the total funding for the programme and its source.

£7.0M – Home Office funding

3. Are aspects of this programme conducted under contract with industry, academic institutions, or in other non-defence facilities?

Yes

4. If yes, what proportion of the total funds for the programme is expended in these contracted or other facilities?

80%

5. Summarize the objectives and research areas of the programme performed by contractors and in other facilities with the funds identified under paragraph 4.

The work is aimed at:

- Detection and analysis of biological materials
- Medical countermeasures to biological agents
- Development and assessment of protective equipment against biological materials
- Hazard assessment and decontamination of biological agents
- Developing an understanding of the impact and spread of biological materials

6. Provide a diagram of the organizational structure of the programme and the reporting relationships (include individual facilities participating in the programme).

Contractors report through controlling Government departments to the HO-led CBRN Delivery Board

7. Provide a declaration in accordance with Form A, part 2 (iii) for each facility, both governmental and non-governmental, which has a substantial proportion of its resources devoted to the national biological defence research and development programme, within the territory of the reporting State, or under its jurisdiction or control anywhere.

The only facility that falls into this category is Dstl, for which a declaration is made on Form A Part 2 (iii).
National Biological Defence Research and Development Programme

Facilities

Complete on form for each facility declared in accordance with paragraph 7 in Form A Part 2 (ii).

In shared facilities, provide the following information for the biological defence research and development portion only.

1. **What is the name of the facility?**
   
   Defence Science and Technology Laboratory, Porton Down.

2. **Where is it located (include both address and geographical location).**
   
  Dstl,  
   Porton Down,  
   Salisbury,  
   Wiltshire,  
   SP4 0JQ  

   The geographical location is shown in the attached map (Figure 2). G13 Access Road, centre of south boundary, Latitude 50° 07-N, Longitude 01° 40-W.

3. **Floor area of laboratory areas by containment level:**

   - BL2: 1200 m²  
   - BL3: 1191 m²  
   - BL4: 256 m²  

   Biological defence research and development element

4. **The organisational structure of each facility:**

   The organisational structure of Dstl Porton Down is shown in Figure 1. The facility provides research for all aspects of defence, including CBRN. The total number of Dstl staff at Porton Down on 12th February 2009 was 1726 civilians (1312 permanent and 414 temporary) and 16 military. The permanent staff fall into the following categories:

   - Scientists and Engineers: 782
   - Science support staff: 258
   - Administration staff: 179
   - Administration support staff: 93

   **TOTAL**: 1312

   Military personnel: 16

   For the biological defence research and development element, the numbers are as follows:
I. Total number of personnel 225

II. Division of personnel

Civilian 221
Military 4

III. Division of civilian personnel by category:

Scientists and Engineers 176
Science support staff 32
Administration staff 14
Administration support staff 3

IV. List the scientific disciplines represented in the scientific/engineering staff.

Aerobiology, aerosol physics, mathematics, chemistry, chemical engineering, physics, bacteriology, biology, biophysics, bioinformatics, virology, genetics, immunology, medicine, veterinary science, microbiology, biochemistry, molecular biology, physiology, pharmacology, neuropharmacology, psychology, toxicology, engineering, electronics, ergonomics, hydrodynamics, information science, materials science, operational analysis, operational research, information technology, CB defence science.

V. Are contractor staff working in the facility? If so, provide an approximate number.

A small number of contractors work on the programme from time to time. Other contractor staff carry out building and maintenance work and some administrative functions.

VI. What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Porton Down is one of the sites of the Defence Science and Technology Laboratory (Dstl), which is part of the Ministry of Defence. Some work, approximately 30%, is carried out for other governmental and commercial customers.

VII. What are the funding levels for the following programme areas:

<table>
<thead>
<tr>
<th>Programme</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>£48M</td>
</tr>
<tr>
<td>Development</td>
<td>£10M</td>
</tr>
<tr>
<td>Test and Evaluation</td>
<td>This is carried out as required to support research and development. Not separately funded in UK.</td>
</tr>
</tbody>
</table>

VIII. Briefly describe the publication policy of the facility:

Staff at Dstl are encouraged to publish their work in the scientific literature.
IX. **Provide a list of publicly available papers and reports resulting from the work during the previous 12 months. (To include authors, titles and full references).**


5. **Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms including viruses and prions and/or toxins studied, as well as outdoor studies of biological aerosols.**

The work of Dstl, Porton Down has been reported under Question 1 of Form A Part 2 (ii). Projects currently underway include:

a. The assessment of the hazard posed by micro-organisms and toxins when used by an aggressor as a BW.

b. Research into systems to facilitate collection, detection, warning, and identification of BW agents. This work includes the evaluation of collection and detection systems in outdoor studies using microbiological simulants and research into the composition of naturally occurring biological aerosols.

c. Research to establish the protection afforded by materials and CBRN defence equipment against BW agents. This work includes the evaluation of military equipment both in the laboratory and in outdoor studies using microbiological simulants.

d. Research into formulations and techniques for decontaminating microbiologically contaminated equipment using suitable simulants.

e. Rapid identification of micro-organisms and toxins by the use of monoclonal antibodies and gene probes.


g. Therapies for bacterial and viral infections.

h. Studies on the mechanisms of pathogenicity of viruses and bacteria and the development of improved vaccines.
ANNEX to Form A Part 2 (iii)

BIOLOGICAL DEFENCE RESEARCH PUBLICATIONS FOR Dstl PORTON DOWN 2008

Book Chapters


Peer Reviewed Papers


TH Hoang, HA Hong, GC Clark, RW Titball and SM Cutting. Recombinant *Bacillus subtilis* Expressing the *Clostridium perfringens* Alpha Toxoid Is a Candidate Orally Delivered Vaccine against Necrotic Enteritis. *Infection and Immunity*. **76**: 5257-5265, 2008.


Figure 1: Organisational Structure of Dstl Porton Down. (Departments contributing to the Biological Defence Programme are shown in grey)
Figure 2: Routes to Dstl Porton Down
### Background information on outbreaks of reportable infectious diseases in humans – England and Wales

Data from Statutory Notifications of Infectious Diseases (England and Wales)

<table>
<thead>
<tr>
<th>Disease</th>
<th>Number of cases per year</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007‡</th>
<th>2008†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute encephalitis</td>
<td></td>
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<td>19</td>
<td>19</td>
<td>18</td>
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</tr>
<tr>
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<td>0</td>
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<td>31</td>
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<td></td>
<td>10</td>
<td>9</td>
<td>10</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Dysentery</td>
<td></td>
<td>1,203</td>
<td>1,237</td>
<td>1,122</td>
<td>1,217</td>
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<td>37</td>
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<td></td>
<td>609</td>
<td>679</td>
<td>613</td>
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<td>386</td>
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<td>657</td>
<td>673</td>
<td>529</td>
</tr>
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<td>Mumps**</td>
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<td>56,256</td>
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<td>Paratyphoid fever</td>
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<td>119</td>
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<td>126</td>
<td>168</td>
</tr>
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<td>Plague</td>
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<td>0</td>
<td>0</td>
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</tr>
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<td>Rabies</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Relapsing fever</td>
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<td>0</td>
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<td>0</td>
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</tr>
<tr>
<td>Rubella**</td>
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<td>1,287</td>
<td>1,155</td>
<td>1,221</td>
<td>1,082</td>
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<td>1,948</td>
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<td>0</td>
</tr>
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<td>Tetanus</td>
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<td>12</td>
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<td>0</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Tuberculosis</td>
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<td>7,628</td>
<td>7,621</td>
<td>6,989</td>
<td>7,155</td>
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<td></td>
<td>146</td>
<td>179</td>
<td>201</td>
<td>208</td>
<td>238</td>
</tr>
<tr>
<td>Typhus fever</td>
<td></td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Viral haemorrhagic fever</td>
<td></td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Viral hepatitis</td>
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<td>3,932</td>
<td>4,109</td>
<td>4,007</td>
<td>3,857</td>
<td>4,780</td>
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<tr>
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<td>784</td>
<td>513</td>
<td>433</td>
<td>333</td>
<td>381</td>
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<tr>
<td><em>Hepatitis B</em></td>
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<td>1,215</td>
<td>1,325</td>
<td>1,165</td>
<td>1,265</td>
<td>1,594</td>
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<tr>
<td><em>Hepatitis C</em></td>
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<td>1,851</td>
<td>2,120</td>
<td>2,194</td>
<td>2,040</td>
<td>2,545</td>
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<td>Other and unknown</td>
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<td>82</td>
<td>151</td>
<td>215</td>
<td>219</td>
<td>260</td>
</tr>
<tr>
<td>Disease</td>
<td>2004</td>
<td>2005</td>
<td>2006</td>
<td>2007</td>
<td>2008</td>
<td></td>
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<td>------------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td></td>
</tr>
<tr>
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<td>504</td>
<td>594</td>
<td>550</td>
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<td>1,526</td>
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<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

‡ Adjusted (confirmed) annual totals
† Provisional annual totals
** Note: In recent years a substantial proportion of notified cases of these diseases are shown subsequently not to be the implicated infection but do not get de-notified

Full information on Statutory Notifications of Infectious Diseases in England and Wales can be obtained via:

http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1233822588667
**Background information on outbreaks of reportable infectious diseases in humans - Northern Ireland**

Data from statutory Notifications of Infectious Diseases (Northern Ireland).

Please note: these figures are not classified as outbreaks and are only suspected cases reported by General Practitioners.

<table>
<thead>
<tr>
<th>Disease</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008 †</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Encephalitis/Meningitis: Bacterial</td>
<td>59</td>
<td>48</td>
<td>46</td>
<td>33</td>
<td>41</td>
</tr>
<tr>
<td>Acute Encephalitis/Meningitis: Viral</td>
<td>5</td>
<td>18</td>
<td>12</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Anthrax</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Chickenpox</td>
<td>3768</td>
<td>3227</td>
<td>3034</td>
<td>2823</td>
<td>1937</td>
</tr>
<tr>
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<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Diphtheria</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1 ††</td>
</tr>
<tr>
<td>Dysentery</td>
<td>8</td>
<td>7</td>
<td>7</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Food Poisoning</td>
<td>1666</td>
<td>1409</td>
<td>1469</td>
<td>1321</td>
<td>1262</td>
</tr>
<tr>
<td>Gastro-enteritis (persons under 2)</td>
<td>697</td>
<td>736</td>
<td>718</td>
<td>762</td>
<td>730</td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>12</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>45</td>
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<td>42</td>
<td>50</td>
<td>50</td>
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<tr>
<td>Hepatitis Unspecified: Viral</td>
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<td>29</td>
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<td>Legionnaires Disease</td>
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<td>10</td>
<td>5</td>
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<td>Leptospirosis</td>
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<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Malaria</td>
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</tr>
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<td>Measles</td>
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<td>52</td>
<td>31</td>
<td>24</td>
</tr>
<tr>
<td>Meningococcal Septicaemia</td>
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<td>75</td>
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<td>164</td>
<td>134</td>
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<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Plague</td>
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<td>0</td>
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</tr>
<tr>
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</tr>
<tr>
<td>Polio (acute)</td>
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<td>0</td>
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</tr>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Relapsing Fever</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Rubella</td>
<td>39</td>
<td>31</td>
<td>33</td>
<td>26</td>
<td>28</td>
</tr>
<tr>
<td>Scarlet Fever</td>
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<td>213</td>
<td>214</td>
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<td>Smallpox</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Tetanus</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Tuberculosis (Pulmonary)</td>
<td>59</td>
<td>37</td>
<td>34</td>
<td>44</td>
<td>27</td>
</tr>
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<td>Tuberculosis (Non Pulmonary)</td>
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<td>31</td>
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<td>19</td>
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<td>------</td>
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</table>

† Provisional figures for 2008  
†† Non-toxigenic

Further information on Notifications of Infectious Diseases in Northern Ireland can be obtained via:  
http://www.cdscni.org.uk/  
http://www.cdscni.org.uk/surveillance/NOIDS/officedocs/NOIDS_Annual_Totals.xls
## Background information on outbreaks of reportable infectious diseases in humans – Scotland

Data from Statutory Notification of Infectious Diseases, Health Protection Service, Scotland.

<table>
<thead>
<tr>
<th>Disease</th>
<th>Number of cases per year</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007*</th>
<th>2008**</th>
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<td>Anthrax</td>
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<td>0</td>
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<td>112</td>
<td>156</td>
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<td>Cholera</td>
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<td>1</td>
<td>6</td>
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<td>3</td>
</tr>
<tr>
<td>Diphtheria</td>
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<td>1</td>
<td>0</td>
</tr>
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<td>5</td>
<td>2</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Malaria</td>
<td></td>
<td>20</td>
<td>20</td>
<td>18</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Measles</td>
<td></td>
<td>257</td>
<td>208</td>
<td>153</td>
<td>146</td>
<td>106</td>
</tr>
<tr>
<td>Meningococcal infection</td>
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<td>140</td>
<td>150</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Relapsing fever</td>
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</tr>
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<td>153</td>
<td>146</td>
<td>106</td>
</tr>
<tr>
<td>Scarlet fever</td>
<td></td>
<td>213</td>
<td>208</td>
<td>274</td>
<td>315</td>
<td>889</td>
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<td>Viral haemorrhagic fevers</td>
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<td>Viral hepatitis***</td>
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<td>1063</td>
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<td>Whooping cough</td>
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<td>51</td>
<td>67</td>
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</tr>
</tbody>
</table>

* Confirmed figures
** 2008 Provisional figures
*** It should be noted that the accuracy and comprehensiveness of viral hepatitis data is limited as it is based on notifications submitted by the National Health Service Boards. Notifications are a clinical suspicion of an infection and can differ from the number of laboratory confirmed cases. Health Protection Scotland (HPS), in association with hepatitis testing laboratories in Scotland, manages a laboratory based surveillance system, which generates accurate and comprehensive information on viral hepatitis, particularly that associated with Hepatitis C. The data generated from this surveillance system is published regularly on the HPS website: [http://www.hps.scot.nhs.uk/](http://www.hps.scot.nhs.uk/).

Further information on Notifiable Infectious Diseases in Scotland can be obtained via:

- [http://www.hps.scot.nhs.uk/surveillance/NotifiableInfectiousDiseaseData.aspx](http://www.hps.scot.nhs.uk/surveillance/NotifiableInfectiousDiseaseData.aspx)
### Background information on outbreaks of reportable infectious diseases in animals – United Kingdom

<table>
<thead>
<tr>
<th>Disease</th>
<th>2004</th>
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<td>African Horse Sickness</td>
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<tr>
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<td>Brucellosis (Brucella abortus)</td>
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<td>Brucellosis (Brucella melitensis)</td>
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<td>Classical Swine Fever</td>
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<td>Dourine</td>
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<td>Epizootic Haemorrhagic Virus Disease</td>
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<td>Epizootic Lymphangitis</td>
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<td>Equine Viral Arteritis</td>
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<td>Equine Viral Encephalomyelitis</td>
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<tr>
<td>Equine Infectious Anaemia</td>
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<tr>
<td>Foot and Mouth Disease</td>
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<tr>
<td>Glanders and Farcy</td>
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<td>Goat Pox</td>
<td></td>
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<tr>
<td>Lumpy Skin Disease</td>
<td></td>
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<td>Newcastle Disease</td>
<td></td>
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<td></td>
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<tr>
<td>Paramyxovirus of pigeons</td>
<td></td>
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<td>Pest des Petits Ruminants</td>
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<tr>
<td>Rabies</td>
<td></td>
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<td>1**</td>
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<tr>
<td>Rift Valley Fever</td>
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<td></td>
</tr>
<tr>
<td>Rinderpest (Cattle plague)</td>
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<tr>
<td>Scrapie</td>
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<td>Sheep pox</td>
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<td>Swine Vesicular Disease</td>
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<tr>
<td>Teschen Disease (Porcine enterovirus encephalomyelitis)</td>
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<td>Tuberculosis (Bovine TB)</td>
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</tr>
<tr>
<td>Vesicular Stomatitis</td>
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</tr>
<tr>
<td>Warble Fly</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
### West Nile Virus

* This table shows confirmed exotic notifiable disease investigations. Further information can be found at:


Full information on all UK notifiable animal diseases can be obtained via:


and UK reports to the World Organisation for Animal Health (OIE) can be found on the OIE website via:


** Rabies case involved one imported dog held in quarantine.
### Background information on outbreaks of reportable infectious diseases in Plants - United Kingdom

<table>
<thead>
<tr>
<th>Disease</th>
<th>Number of cases per year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2004</td>
</tr>
<tr>
<td><em>Ciborinia camelliae</em> (Camelia flower blight)</td>
<td></td>
</tr>
<tr>
<td><em>Clavibacter michiganensis</em> subsp. <em>sepedonicus</em> (Ring rot in seed potatoes)</td>
<td></td>
</tr>
<tr>
<td><em>Colletotrichum acutatum</em> (Strawberry black spot) in propagating crops</td>
<td></td>
</tr>
<tr>
<td><em>Columnnea latent viriod</em></td>
<td></td>
</tr>
<tr>
<td><em>Erwinia amylovora</em> (Fireblight)</td>
<td></td>
</tr>
<tr>
<td><em>Florida passionflower virus</em></td>
<td></td>
</tr>
<tr>
<td><em>Pepino mosaic virus</em> in tomato crops</td>
<td></td>
</tr>
<tr>
<td><em>Phytophthora kernoviae</em></td>
<td>16</td>
</tr>
<tr>
<td><em>Phytophthora ramorum</em> (Sudden Oak Death)</td>
<td>141</td>
</tr>
<tr>
<td><em>Plasmopara obducens</em> (Downy mildew) of Impatiens</td>
<td></td>
</tr>
<tr>
<td><em>Potato spindle tuber viroid</em> on tomato crops</td>
<td></td>
</tr>
<tr>
<td><em>Potato virus M</em> (non-European isolate) in seed potato crops</td>
<td></td>
</tr>
<tr>
<td><em>Puccinia horiana</em> (Chrysanthemum white rust)</td>
<td></td>
</tr>
<tr>
<td><em>Ralstonia solanacearum</em> (potato brown rot)</td>
<td></td>
</tr>
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</table>
### Table: Notifiable Diseases

<table>
<thead>
<tr>
<th>Disease Description</th>
<th>6</th>
<th>4</th>
<th>1</th>
<th>6</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Ralstonia solanacearum</em> (potato brown rot) in river surveys</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><em>Synchytricum endobioticum</em> (potato wart disease) in private gardens</td>
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<tr>
<td><em>Tobacco mild green mosaic virus</em></td>
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<tr>
<td><em>Xanthomonas fragariae</em></td>
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</tbody>
</table>

*Confirmed figures*

The serious diseases above were all investigated, but occurrence could be explained by normal introduction means and there was no evidence of deliberate malicious introduction. There were also a number of findings of less important routine notifiable diseases, but these can also be explained by natural means of spread or by trade pathways.
### Information on outbreaks of infectious diseases and similar occurrences, that seem to deviate from the normal pattern

1. **Time of cognizance of the outbreak**: February 2008
2. **Location and approximate area affected**: Open farm, Belfast, Northern Ireland
3. **Type of disease/intoxication**: *E. coli* O 157 (PT 31)
4. **Suspected source of disease/intoxication**: Farm animal contact, then person to person spread in households/schools
5. **Possible causative agent(s)**: Goats
6. **Main characteristics of systems**: ......................................................
7. **Detailed symptoms, when applicable**
   - respiratory ......................................................
   - circulatory ......................................................
   - neurological/behavioural ......................................................
   - intestinal ......................................................
   - dermatological ......................................................
   - nephrological ......................................................
   - other ......................................................
8. **Deviation(s) from the normal pattern as regards**
   - type ......................................................
   - development ......................................................
   - place of occurrence ......................................................
   - time of occurrence ......................................................
   - symptoms ......................................................
   - virulence pattern ......................................................
   - drug resistance pattern ......................................................
   - agent(s) difficult to diagnose ......................................................
   - presence of unusual vectors ......................................................
   - other ......................................................
9. **Approximate number of primary cases**: ......................................................
10. **Approximate number of total cases**: 17
11. **Number of deaths**: 0
12. **Development of the outbreak**: Onset illness Feb – April 2008
13. **Measures taken**: Removal of positive animals from open farm
### Information on outbreaks of infectious diseases and similar occurrences, that seem to deviate from the normal pattern

1. **Time of cognizance of the outbreak**: June 2008
2. **Location and approximate area affected**: Hospital In-patients  
   **Belfast**  
   **Northern Ireland**
3. **Type of disease/intoxication**: Listeriosis
4. **Suspected source of disease/Intoxication**: Possible link with pre-packed sandwiches
5. **Possible causative agent(s)**: ......................................................
6. **Main characteristics of systems.**: Bacteraemia
7. **Detailed symptoms, when applicable**
   - respiratory .............................................................  
   - circulatory .............................................................  
   - neurological/behavioural .............................................  
   - intestinal .............................................................  
   - dermatological ......................................................  
   - nephrological .......................................................  
   - other .................................................................
8. **Deviation(s) from the normal pattern as regards**
   - **Type**: First ever outbreak of Listeriosis recognised in Northern Ireland  
   - **development** .....................................................  
   - **place of occurrence** .............................................  
   - **time of occurrence** .............................................  
   - **symptoms** .......................................................  
   - **virulence pattern** ...............................................  
   - **drug resistance pattern** .......................................  
   - **agent(s) difficult to diagnose** ................................  
   - **presence of unusual vectors** ..................................  
   - **other** ............................................................
9. **Approximate number of primary cases**: 7
10. **Approximate number of total cases**: ........................................
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>11.</td>
<td>Number of deaths</td>
<td>3</td>
</tr>
<tr>
<td>13.</td>
<td>Measures taken</td>
<td>Review hospital and sandwich producer HACCP processes</td>
</tr>
</tbody>
</table>
Information on outbreaks of infectious diseases and similar occurrences, that seem to deviate from the normal pattern

1. Time of cognizance of the outbreak   Jan 2008
2. Location and approximate area affected   Specific hospitals within the Northern Health & Social Services Trust, Northern Ireland
3. Type of disease/intoxication   *C. difficile*
4. Suspected source of disease /Intoxication   Introduction of ribotype 027 into the Trust with person/person spread
5. Possible causative agent(s)   *C. difficile* ribotype 027
6. Main characteristics of systems   Gastrointestinal
7. Detailed symptoms, when applicable
   - respiratory ......................................................
   - circulatory ......................................................
   - neurological/behavioural ......................................................
   - intestinal ......................................................
   - dermatological ......................................................
   - nephrological ......................................................
   - other ......................................................
8. Deviation(s) from the normal pattern as regards
   - type Ribotype 027
   - development ......................................................
   - place of occurrence ......................................................
   - time of occurrence ......................................................
   - symptoms ......................................................
   - virulence pattern ......................................................
   - drug resistance pattern ......................................................
   - agent(s) difficult to diagnose ......................................................
   - presence of unusual vectors ......................................................
   - other ......................................................
9. Approximate number of primary cases ......................................................
10. Approximate number of total cases   309
11. Number of deaths   49 of the 309 patients had *C. difficile* on their medical certificate as cause of death
12. Development of the outbreak ......................................................
13. Measures taken

Creation of outbreak control team; creation of isolation ward; revised antibiotic policy to limit prescribing of certain antibiotics; enhanced ribotyping surveillance; enhanced cleaning regimes; enhanced hand hygiene regimes; revised hospital discharge and patient transfer protocols; regular audits of and evaluation of control measures.
Information on outbreaks of infectious diseases and similar occurrences, that seem to deviate from the normal pattern

1. Time of cognizance of the outbreak  24 October 2008
2. Location and approximate area affected  North London, Private residence
3. Type of disease/intoxication  Anthrax
5. Possible causative agent(s)  *Bacillus anthracis*
6. Main characteristics of systems  ......................................................
7. Detailed symptoms, when applicable
   - respiratory  Inhalation anthrax
   - circulatory  ......................................................
   - neurological/behavioural  ......................................................
   - intestinal  ......................................................
   - dermatological  ......................................................
   - nephrological  ......................................................
   - other  ......................................................
8. Deviation(s) from the normal pattern as regards
   - type  ......................................................
   - development  ......................................................
   - place of occurrence  ......................................................
   - time of occurrence  ......................................................
   - symptoms  ......................................................
   - virulence pattern  ......................................................
   - drug resistance pattern  ......................................................
   - agent(s) difficult to diagnose  ......................................................
   - presence of unusual vectors  ......................................................
   - other  ......................................................
9. Approximate number of primary cases  1
10. Approximate number of total cases  1
11. Number of deaths  1
12. Development of the outbreak  ......................................................
13. Measures taken  Environmental sampling
    Risk evaluation
    Decontamination of premises
Encouragement of publication of results and promotion of use of knowledge

At the Third Review Conference it was agreed that States parties continue to implement the following:

"Encouragement of publication of results of biological research directly related to the Convention, in scientific journals generally available to States parties, as well as promotion of use for permitted purposes of knowledge gained in this research."

Nothing new to declare.
**Active promotion of contacts**

1. Planned international conferences, symposia, seminars, and other similar forums for exchange.

For each event the following details are provided:

<table>
<thead>
<tr>
<th>a.</th>
<th>Name of the conference, etc.</th>
<th>Anthrax Workshop</th>
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</thead>
<tbody>
<tr>
<td>Arranging organization(s), etc.</td>
<td>Cardiff University</td>
<td></td>
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<tr>
<td>Time</td>
<td>16 – 17 Mar 2009</td>
<td></td>
</tr>
<tr>
<td>Place</td>
<td>Cardiff</td>
<td></td>
</tr>
<tr>
<td>Main subject(s) for the conference, etc.</td>
<td>Pathology &amp; immunity of anthrax</td>
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</tr>
<tr>
<td>Conditions for participation</td>
<td>Home Office security pass</td>
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<tr>
<td>Point of contact for further information, registration, etc.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>b.</th>
<th>Name of the conference, etc.</th>
<th>Vector Borne Disease in Europe</th>
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</thead>
<tbody>
<tr>
<td>Arranging organization(s), etc.</td>
<td>SCI, Bioresources Group, London</td>
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</tr>
<tr>
<td>Time</td>
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</tr>
<tr>
<td>Place</td>
<td>SCI, London</td>
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<tr>
<td>Main subject(s) for the conference, etc.</td>
<td>Vectors and Vector borne disease</td>
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<tr>
<td>Conditions for participation</td>
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<td></td>
</tr>
<tr>
<td>Point of contact for further information, registration, etc.</td>
<td>Sc Conference Department <a href="mailto:conferences@soci.otrg">conferences@soci.otrg</a> ++ (44) 207 2357743</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>c.</th>
<th>Name of the Conference, etc.</th>
<th>VLA Conference 2009</th>
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</thead>
<tbody>
<tr>
<td>Arranging organisation(s)</td>
<td>VLA</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>2 - 4 September 2009</td>
<td></td>
</tr>
<tr>
<td>Place</td>
<td>Royal Holloway, UK</td>
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<tr>
<td>Main subject(s) for the conference, etc.</td>
<td>Animal Infections</td>
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<tr>
<td>Conditions for participation</td>
<td>Fee</td>
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<td>-----------------------------------------------------------------</td>
<td>-----------------------------------------------------------------</td>
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</tr>
<tr>
<td><strong>Point of contact for further information, registration, etc.</strong></td>
<td><a href="http://www.vla.gov.uk/">http://www.vla.gov.uk/</a></td>
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</tr>
<tr>
<td></td>
<td><a href="mailto:events@vla.defra.gsi.gov.uk">events@vla.defra.gsi.gov.uk</a></td>
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</tr>
</tbody>
</table>

**d. Name of the conference, etc.** EBSA 12\textsuperscript{th} Annual Conference.  
**Arranging organization(s), etc.** European Biosafety Association  
**Time** 16\textsuperscript{th}-17\textsuperscript{th} June 2009  
**Place** Stockholm Sweden  
**Main subject(s) for the conference, etc.** General Biosafety inc. blood borne pathogens, industrial scale Production issues & Biosecurity  
**Conditions for participation** Fee payment (reduction for EBSA members)  
**Point of contact for further information, registration, etc.** EBSA website  
http://www.ebsaweb.eu/ebsa_12

**e. Name of the conference, etc.** Health Protection 2009  
**Arranging organization(s)** Health Protection Agency  
**Time** 14-16 September 2009  
**Place** University of Warwick, UK  
**Main subject(s) for the conference, etc.** - health protection  
- infectious disease  
- chemical & radiation exposure  
- emergency preparedness, (including CBRN)  
**Conditions for participation** by application  
**Point of contact for further information, registration, etc.**  
http://www.healthprotectionconference.org.uk

2. Information regarding other opportunities

Nothing to report.
### Declaration of legislation, regulations and other measures

<table>
<thead>
<tr>
<th>Relating to</th>
<th>Legislation</th>
<th>Regulations</th>
<th>Other measures</th>
<th>Amended since last year</th>
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</thead>
<tbody>
<tr>
<td>(a) Development, production stockpiling, acquisition or retention of microbial or other biological agents, or toxins, weapons, equipment and means of delivery specified in Article I</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>

Links to the UK’s Anti-Terrorism, Crime and Security Act 2001 (ATCSA):


Link to text of the UK’s Biological Weapons Act 1974:


**Amendments since last year:**

The Academic Technology Approval Scheme (ATAS) was introduced on 1 November 2007
For information, see link:


| (b) Exports of micro-organisms* and toxins                               | YES         | YES         | YES            | NO                     |

Link to current UK Export control lists:


Further information on UK export control legislation can be found at:


| (c) Imports of micro-organisms* and toxins                               | YES         | YES         | YES            | YES                    |

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* Micro-organisms pathogenic to man, animals and plants in accordance with the Convention.
Amendments since last year:

The Plant Health Order was amended in 2008:

http://www.defra.gov.uk/planth/phorder/

Links to UK import/export legislation for animal and plant pathogens:

http://www.defra.gov.uk/planth/phorder/index.htm

Further information on UK domestic controls to prevent the proliferation of nuclear, chemical and biological weapons, and their means of delivery has been submitted under UN Security Council Resolution 1540 requirements and can be found via:

Declaration of past activities in offensive and/or defensive biological research and development programmes

1. Date of entry into force of the Convention for the State Party.

26 March 1975

2. Past offensive biological research and development programmes:

Nothing new to declare.
**Form G**

**Declaration of vaccine production facilities**

1. **Name of facility:** MedImmune UK Ltd

2. **Location (mailing address):**
   - Plot 6 Renaissance Way
   - Boulevard Industry Park
   - Speke
   - Liverpool
   - L24 9JW

3. **General description of the types of diseases covered:**
   - Influenza vaccine
Declaration of vaccine production facilities

1. Name of facility: Novartis Vaccines and Diagnostics Limited

2. Location (mailing address): Gaskill Road
Speke
Liverpool,
L24 9GR

3. General description of the types of diseases covered:

During 2008, Influenza vaccines only were manufactured at this facility. Two distinct types:

(a) Northern Hemisphere Influenza vaccine: Cultivation of egg adapted influenza virus Three strains incorporated within the vaccine (Trivalent).

(b) H5N1 avian influenza vaccine (monovalent i.e. single strain): Cultivation in eggs of attenuated H5N1 strains produced by ‘Reverse Genetics’. Designated at containment category allocated Cat 2 (Enhanced). The enhancements refer to a requirement for additional personal protection (use of RPE) and vaccination of operators with current Northern Hemisphere Influenza vaccine. This agent is designated as a GMO & an appropriate manufacturing licence (GM consent) has been granted from the UK Competent Authority. IAPO (the 'Importation of Animal Pathogens Order', 1980) does not apply to these strains due to attenuation at the genetic level.

Transition to a new purpose built influenza vaccine manufacturing facility is planned at the start of the 2010 manufacturing campaign. Some laboratories in the new facility are already operational and commissioning activities are ongoing.
<table>
<thead>
<tr>
<th>1. Name of facility:</th>
<th>Health Protection Agency Centre for Emergency Preparedness and Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Location (mailing address):</td>
<td>Porton Down Salisbury Wiltshire SP4 0JG</td>
</tr>
<tr>
<td>3. General description of the types of diseases covered:</td>
<td>Manufacturer of anthrax vaccine</td>
</tr>
</tbody>
</table>