**SURVEY OF INDUSTRY & ACADEMIA** **LABORATORY CHEMICAL AND BIOLOGICAL SURGE ANALYSIS CAPABILITY**

1. The Department for Environment, Food and Rural Affairs (Defra) is the Lead Government Department in England co-ordinating the decontamination and remediation of incident sites following attacks and major industrial accidents involving hazardous chemical and biological materials. Laboratory facilities are used for analysing environmental samples to inform decontamination and remediation decisions. Until these samples are analysed, contaminated areas would not be declared safe and habitable.
2. Defra is surveying the current availability of **UK based** private sector and academic laboratories capable of handling the environmental sample analysis that may be necessary for chemical and biological incident recovery. This will inform Defra’s contingency planning and assessment of the potential to increase ‘surge’ sample analysis capacity in this area.
3. You are invited to take part in the market the survey on behalf of your laboratory. Please complete Part A (chemical analysis capability) and/or Part B (biological analysis capability) of the questionnaire as appropriate by entering your responses into the document.
4. Please contact CBRNResearch@defra.gov.uk with any queries about the survey, and return the completed questionnaire to CBRNResearch@defra.gov.uk by **17:00** **11th October 2024.** Please use *‘**Chemical and Biological Laboratory Surge Analysis Capability Survey’* in the Subject header of any email correspondence.

5. **Please return the completed questionnaire in** **Microsoft Word format** to enable Defra to collate responses, do not return as PDF or other non-editable formats.

**PLEASE NOTE THIS IS A MARKET SURVEY FOR INFORMATION PURPOSES ONLY.**

This engagement does not constitute a formal notice to tender and Defra makes no commitment to undertake a tender exercise to create a contract for the services in the future as a result of this survey. By replying to the questionnaire, you are not committing to any future tender obligations and replies provided will not form part of any subsequent bidding process or bid evaluation should a tender opportunity arise.

**PART A**

**LABORATORY CHEMICAL ANALYSIS CAPABILITY**

1. Defra wish to understand the laboratory capability that currently exists for chemical analysis in the following key areas:
* Inorganic and organic chemistry facilities
* Analytical equipment
* Suitably qualified and experienced personnel (SQEP)
* The laboratory’s ability to increase or ‘surge’ analysis capability at short notice
* Laboratory sample storage facilities
1. For each question, please respond on behalf of your laboratory and enter your responses onto the document.

**SURVEY QUESTIONS**

|  |
| --- |
| **Organisation:****Contact Name:****Email Address:****Laboratory Location(s)** *(Postal Town or Postcode prefix xx10):* |

**Sites, Facilities and Equipment**

1. Which licences does your laboratory hold for controlled chemicals?

|  |
| --- |
| **Licences held:** |
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|  |

1. Is your laboratory registered with the Home Office in relation to Part 7 of the Anti-Terrorism, Crime and Security Act 2001 and visited by your local counter-terrorism security advisor?

YES [ ]  NO [ ]

1. Which quality system accreditations are held by your laboratory and what is the scope of your accreditation?

|  |  |
| --- | --- |
| **Accreditation**  | **Scope** |
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1. How many of the following items of equipment does your laboratory hold?

|  |  |
| --- | --- |
| **Item** | **Number** |
| Variable air volume fume cupboards |  |
| Chemical isolators |  |
| High pressure liquid chromatography (HPLC) systems without mass spectrometry |  |
| High pressure liquid chromatography - mass spectrometry (LC-MS) systems |  |
| Gas chromatography (GC) systems without mass spectrometry |  |
| Gas chromatography – mass spectrometry (GC-MS) systems |  |
| Flow injection analysis (FIA)  |  |
| Ion chromatography (IC) conductivity |  |

**Personnel**

1. How many personnel deemed competent by your organisation would be available at short notice after notification of a chemical incident to undertake the following tasks? How many further staff could provide increased or ‘surge’ capacity once given minimal training?

|  |  |  |
| --- | --- | --- |
| **Task** | **No of competent staff available at short notice** | **No of staff available to increase capacity with minimal training** |
| Sample booking |  |  |
| Sample preparation |  |  |
| Sample analysis by: |  |  |
| High pressure liquid chromatography (HPLC) – non mass spectrometry detection |  |  |
| High pressure liquid chromatography - mass spectrometry (LC-MS) |  |  |
| Gas chromatography (GC) – non mass spectrometry detection |  |  |
| Gas chromatography – mass spectrometry (GC-MS) |  |  |
| Flow injection analysis (FIA) |  |  |
| Ion chromatography (IC) conductivity |  |  |
| Ion chromatography - mass spectrometry (IC-MS) |  |  |
| Results evaluation and reporting |  |  |

1. In total, how many of these chemistry lab staff have government security clearance? (E.g. Security Check (SC) / Developed Vetting (DV)). If so, what are their skill sets?

|  |  |
| --- | --- |
| **Security Clearance Type** | **Number of Staff and Skill Sets** |
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1. How many of your staff have experience in analysing enhanced hazard materials or Acute Toxicity 1 materials as classified in the CLP Regulation? Which classes of materials do they have experience in handling?

|  |  |
| --- | --- |
| **Hazard Material Class** | **Number of Staff** |
|  |  |
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1. Does your laboratory have health surveillance protocols in place?

YES [ ]  NO [ ]

**Laboratory Capability**

1. Can your organisation develop statistically robust environmental sampling plans?

YES [ ]  NO [ ]

1. Does your laboratory routinely handle the substrates in the table below? If not, could your lab handle these substrates if required to do so?

|  |  |  |
| --- | --- | --- |
| **Sample type** | **Routine handling****Yes / No** | **If required****Yes / No** |
| Air |  |  |
| Soil |  |  |
| Water |  |  |
| Foodstuffs |  |  |
| Surface wipes |  |  |
| Swabs |  |  |
| Brick |  |  |
| Concrete |  |  |
| Asphalt |  |  |
| DETEX (latex) |  |  |

1. Does your laboratory routinely develop standard extraction and analysis methods? YES [ ]  NO [ ]

If so, have these methods been validated a) in-house and / or b) inter-laboratory?

In-house Validation YES [ ]  NO [ ]

Inter-laboratory Validation YES [ ]  NO [ ]

1. Do you have space within your inorganic and organic chemistry laboratories / work areas for secure, dedicated, refrigerated and / or freezer (-80 degrees C) storage facilities where analysed and unanalysed portions of samples can be retained?

Refrigerated storage YES [ ]  NO [ ]

 Freezer storage YES [ ]  NO [ ]

1. Do you have or had experience of government or private sector contracts for similar sample analysis as part of your normal business?

YES [ ]  NO [ ]

16. Do your business contracts include a clause allowing re-prioritisation of work to assist the government when needed?

YES [ ]  NO [ ]

17. How would your laboratory re-prioritise from normal business to assist with incident recovery sample analysis?

|  |
| --- |
| *(Max 300 words)* |

18. How long would re-prioritisation take?

|  |
| --- |
| *(Max 300 words)* |

19. What would delay your laboratory in re-prioritising from normal business to assisting with incident recovery sample analysis?

|  |
| --- |
| *(Max 300 words)* |

**Sample Transportation**

20. Does your laboratory have a courier who can transport Category A samples securely to your premises?

YES [ ]  NO [ ]

**Investment Requirements**

21. Are you willing to have future discussions about the cost associated with you providing sample analysis services to Defra?

YES [ ]  NO [ ]

22. Please provide any further information you consider would be helpful to assist Defra in the assessment of laboratory chemical analysis capability (max 200 words)

|  |
| --- |
|  |

**Thank you for taking the time to assist Defra with this research.**

Please return the completed questionnaire in Microsoft Word Format to CBRNResearch@defra.gov.uk and quote ‘*Chemical and Biological Laboratory Surge Analysis Capability Survey*’ in the Subject header for identification purposes.

**PART B**

**LABORATORY BIOLOGICAL ANALYSIS CAPABILITY**

1. Defra wish to understand the laboratory capability that currently exists for biological analysis in the following key areas:
* Sites & Facilities
* Analytical equipment
* Suitably qualified and experienced personnel (SQEP)
* The laboratory’s ability to increase or ‘surge’ analysis capability at short notice
* Laboratory sample storage facilities
1. For each question, please respond on behalf of your laboratory and enter your responses onto the document.

**SURVEY QUESTIONS**

|  |
| --- |
| **Organisation:****Contact Name:****Email Address:****Laboratory Location(s)** *(Postal Town or Postcode prefix xx10)***:** |

**Sites, Facilities and Equipment**

1. Which licences does your laboratory hold for working with biological agents and / or toxins?

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| --- |
| **Licences held:** |
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|  |
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|  |

1. Is your laboratory registered with the Home Office in relation to Part 7 of the Anti-Terrorism, Crime and Security Act 2001 and visited by your local counter-terrorism security advisor?

YES [ ]  NO [ ]

1. Which quality system accreditations are held by your laboratory and what is the scope of your accreditation?

|  |  |
| --- | --- |
| **Accreditation**  | **Scope** |
|  |  |
|  |  |
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1. How many of the following items of equipment does your lab hold? How many are held in CL3/CL4 containment areas?

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **Type** | **Number / Capacity (include number of wells/plate)** | **Number in CL3/CL4 containment areas** |
| **SAPO** | **ACDP** |
| Maldi-Tof colony Biotyper system |  |  |  |  |
| Automated DNA/RNA extraction platforms |  |  |  |  |
| PCR machines (incl. type) |  |  |  |  |
| Plate readers / ELISA machines |  |  |  |  |
| Next Generation Sequencing or other DNA/RNA sequencing systems |  |  |  |  |
| Incubators (aerobic, microaerophilic) |  |  |  |  |
| Autoclaves |  |  |  |  |
| Microbiological safety cabinets (Class I, II or III) |  |  |  |  |

**Personnel**

1. How many personnel deemed competent by your organisation would be available at short notice after notification of a biological incident to undertake the following tasks? How many further staff could provide increased or ‘surge’ capacity once given minimal training?

|  |  |  |
| --- | --- | --- |
| **Task** | **No of competent staff available at short notice** | **No of staff available to increase capacity with minimal training** |
| Sample booking |  |  |
| Sample preparation at containment level 3 (CL3) |  |  |
| Sample preparation at containment level 4 (CL4) |  |  |
| Sample analysis at CL3 with SAPO licence |  |  |
| Sample analysis of ACDP listed materials at CL3 |  |  |
| Sample analysis at CL4 with SAPO licence |  |  |
| Sample analysis of ACDP listed materials at CL4 |  |  |
| Results evaluation and reporting |  |  |

1. In total, how many of these biology laboratory staff have government security clearance? (E.g. Security Check (SC) / Developed Vetting (DV)). If so, what are their skill sets?

|  |  |
| --- | --- |
| **Security Clearance Type** | **Number of Staff** |
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|  |  |
|  |  |
|  |  |
|  |  |

1. Which biological agents / toxins do your staff have experience in handling?

|  |  |
| --- | --- |
| **Biological Agent / Toxin** | **Number of staff** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

1. Does your laboratory have health surveillance protocols in place?

YES [ ]  NO [ ]

**Laboratory Capability**

1. Can your organisation develop statistically robust environmental sampling plans? YES [ ]  NO [ ]
2. Does your laboratory routinely handle the substrates in the table below? If not, could your lab handle these substrates if required to do so?

|  |  |  |
| --- | --- | --- |
| **Sample type** | **Routine handling****Yes / No** | **If required****Yes / No** |
| Air |  |  |
| Soil |  |  |
| Water |  |  |
| Foodstuffs |  |  |
| Swabs |  |  |
| Surface wipes |  |  |
| Brick |  |  |
| Asphalt |  |  |
| Concrete |  |  |
| DETEX (latex) |  |  |

1. Can your laboratory undertake rapid PCR analysis for *Bacillus anthracis* in the following substrates?

|  |  |
| --- | --- |
| **Sample type** | **Yes/No** |
| Air |  |
| Soil |  |
| Water |  |
| Swabs |  |
| Asphalt |  |
| Foodstuffs |  |
| Surface wipes |  |
| Brick |  |
| Concrete |  |
| DETEX (latex) |  |

1. What space do you have within your facilities for secure, dedicated, refrigerated and / or freezer (-80 degrees C) storage where analysed and unanalysed portions of samples can be retained? Please respond separately for ACDP CL3 and ACDP CL4 pathogen contaminated materials.

ACDP CL3

Refrigerated storage YES [ ]  NO [ ]

 Freezer storage YES [ ]  NO [ ]

ACDP CL4

Refrigerated storage YES [ ]  NO [ ]

 Freezer storage YES [ ]  NO [ ]

1. Do you have appropriate space within your ACDP CL3 facilities to prepare samples for PCR/incubation?

YES [ ]  NO [ ]

1. Do you have appropriate space within your ACDP CL4 facilities to prepare samples for PCR/incubation?

YES [ ]  NO [ ]

1. Do you have or had experience of government or private sector contracts for similar sample analysis as part of your normal business?

YES [ ]  NO [ ]

1. Do your business contracts include a clause allowing re-prioritisation of work to assist the government when needed?

YES [ ]  NO [ ]

1. How would your laboratory re-prioritise from normal business to assist with incident recovery sample analysis?

|  |
| --- |
| *(Max 300 words)* |

1. How long would re-prioritisation take?

|  |
| --- |
| *(Max 300 words)* |

1. What would delay your laboratory in re-prioritising from normal business to assisting with incident recovery sample analysis?

|  |
| --- |
| *(Max 300 words)* |

**Sample Transportation**

1. Does your laboratory have a courier who can transport Category A samples securely to your premises?

YES [ ]  NO [ ]

**Investment Requirements**

1. Are you willing to have future discussions about the cost associated with you providing sample analysis services to Defra?

YES [ ]  NO [ ]

1. Please provide any further information you consider would be helpful to assist Defra in the assessment of laboratory biological analysis capability (max 200 words)

|  |
| --- |
|  |

**Thank you for taking the time to assist Defra with this research.**

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