**SPECIFICATION FOR PERSONAL ATMOSPHERIC ANALYSIS EQUIPMENT**

1. **Background** 
   1. Border Force officers are engaged in the search of commercial shipping and other confined spaces. In order to ensure their safety, they require personal atmospheric analysers when working in atmospheres where there is a risk of exposure to hazardous gases, oxygen deficiency or enrichment. Shipboard and container freight search teams also use them to test the air prior to entry into, and whilst working in, confined spaces and inside freight containers.
   2. Border Force is a Directorate of the Secretary of State for the Home Department – more commonly known as the `Home Office’.
2. **Requirements**
   1. There is a need to purchase and deploy a suitable Atmospheric Analyser (the `device’) and corresponding maintenance package in order to address operational needs with minimised risk to officers and others and comply with statutory Health & Safety requirements.
3. **Device**

3.1 The device must be a light weight compact handheld design suitable for use within confined spaces, commonly used in maritime, petrochemical and utilities industries. A single device should incorporate all of the below technical requirements and be suitable for use by officers boarding seagoing vessels.

3.2 The device must have four sensors minimum. They shall accurately identify and alert the officer to the presence of hazardous levels of oxygen (O2), hydrogen sulphide (H2S), carbon monoxide (CO) and lower explosive limit in atmosphere. The option of a fifth sensor to detect phosphine (PH3), or Cardon Dioxide (CO2) is desirable for more specialist work areas for example vessels or freight search.

3.3 The device must comply with all relevant UK and EU electrical regulations, especially in relation to potentially explosive and combustible atmospheres. Information can be found in the links below:

<http://www.legislation.gov.uk/uksi/1994/3260/made>;

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01994L0009-20130101&from=EN>

3.4 In addition, the Supplier must be able to supply any subsequent device that complies with any future changes to legislation for the duration of the contract.

3.5 The device shall carry the following approvals or equivalent:

* ATEX certified: CE Ex II 1 G T4;
* EX approval: EEx ia IIC T4;
* CE: European conformity

It must perform a full function self-test automatically on activation or on demand including (where present):

* sensor;
* battery;
* circuitry;
* audio / visual alarm.

3.6 The device shall possess a large alphanumeric easy to read Liquid Crystal Display (LCD) display with auto and on demand backlight function (auto in alarm) showing:

* + - continuous – real time – gas concentration present
    - LOW/HIGH concentration level as %
    - device lifespan – in days remaining
    - low battery warning indicator with continuous battery status test and warning for low battery
    - peak PPM (maximum) exposure to gas (on demand)
    - Time Weighted Average, short term Exposure Limit and Peak Exposures (on demand)
    - Capacity to download logged data in blocks of no more than 15 minutes and for a minimum datalogging period of 8 hours for further detailed analysis

3.7 In the event of HIGH/LOW gas concentrations the alarm indicators shall include:

* high output (95dB) audio alarm;
* wide angled flashing Light Emitting Diode (LED) including “ALARM” LCD;
* an internal vibrate alert.

3.8 The device shall possess a sensor fail warning indicator within LCD and audible warning bleep of a minimum of 95dB.

3.9 They must remain fully operational in a wide range of ambient temperatures and shall be proofed against water and ingress of dust or dirt and carry a minimum rating of IP65 (as set out in standard BS EN 60529).

3.10 It must also be capable of withstanding damage of vibration impact and being dropped onto a hard surface from a height of 1.5 metres.

3.11 The device shall possess a built-in sampling pump or the ability to attach a pump for use in conjunction with a sampling/insertion tube (exactly 3 metres in length). The sampling tube to have a device fitted that prevents the unit from sucking in water.

3.12 The device shall be fitted with a pump alarm and ‘low flow’ indicator to inform the officer of either a pump failure or blockage in the insertion tube.

3.13 The battery unit shall be sealed, with a minimum of 24 months (2 years) battery life before the need for replacement. It must have a minimum 12 hours continuous operational life. Also, it should have capacity to be recharged via 240 AC mains supply, 12V DC in-car or USB charger.

3.14 The device shall be able to be worn securely via belt clip/on shirt pocket/lapel or body harness and be attached by means of a heavy duty metal clip and/or ‘D’ ring.

3.15 The device shall be programmed for automatic deactivation on expiry of any calibration due date.

3.16 The device shall be self-calibrating. If the self-calibration on start-up function is not available there shall be an option of acquiring the necessary software and equipment to allow devices to be calibrated by the user. In most instances the manual calibration will be undertaken by a qualified service engineer at the regular maintenance intervals; but to facilitate operational requirements there shall be an option of acquiring the necessary software and equipment to allow devices to be calibrated by the user.

3.17 The supplier must deliver 100% of the devices all boxed & enclosed with all devices must be a clearly written in English a user manual containing full operating & care of item instructions.

1. **Maintenance and Repair**
   1. Replacement sensors and other parts shall be available for the lifetime of the

device, or else the device should be replaced at no additional cost by the supplier.

* 1. The Supplier shall provide planned and reactive maintenance, repair and calibration service in accordance with the manufacturer’s recommendations. Planned maintenance will be 1 x annual service at the UK location where the item was delivered to. The repair and/or reactive maintenance service shall be provided by returning items to the successful bidder’s central workshop.

4.3 The Supplier shall notify the Home Office within 48 hours of being notified that a manufacturer must recall devices, ensuring that the process is managed effectively, and no costs are passed on to the Home Office. The Supplier will also ensure that they have a contingency to replace the devices within that 48 hour period so that the Contracting Authority’s business is not interrupted.

4.4 The Supplier shall have robust measures in place to track orders and ensures the Home Office is kept fully informed of progression.

4.5 A warranty covering all aspects of the devices shall be provided for a minimum of two years from the date of delivery to the Home Office.

4.6 The Supplier shall have fully trained and experienced personnel available for the provision of advice and support. This service shall be available by telephone between the hours of 09.00 and 17.00, Monday to Friday.

4.7 All planned maintenance shall be conducted in accordance with the manufacturer’s recommendations.

4.8 All maintenance and repair work undertaken shall ensure that the device performs to the operational standard as determined by the manufacturer’s original specification in agreement with the Home Office.

4.9 All planned maintenance work shall be completed during the initial inspection and any remedial or repair work which is identified as necessary shall, wherever possible, be completed at that time. If remedial or repair work cannot be completed during the initial inspection, the Supplier shall provide the Home Office’s Contract Manager with a written report within 5 working days for the purposes of agreeing timescales and, if appropriate, any additional cost. Further updates shall be provided, as agreed with the Contracting Authority.

4.10 The Supplier shall undertake any necessary maintenance and/or repair work and return the devices to the Home Office no later than 7 working days (95% of the time) after receipt of the devices from the Home Office.

4.11 Unless authorised beforehand by the Home Office, devices shall be repaired with new, original manufacturer’s components **not** refurbished or “cannibalised” parts.

4.12 The Supplier shall have a commitment to quality and shall be required to ensure and demonstrate to the Home Office that any downtime is kept to a minimum and that all maintenance and repair work is both necessary and cost-effective. This will be supported by an annual report issued on the anniversary of the contract start date detailing all units supplied to the Home Office.

4,13 Any extra or remedial work arising from repair and/or maintenance not being completed to the required standard shall be undertaken at no additional cost to the Home Office.

4.14 The Supplier shall provide the Home Office with a separate quote within 5 working days where required for repair work outside the manufacturer’s recommendations, such as damage caused by officers during use, prior to undertaking any remedial action.

4.15 Any devices shall remain the Home Office’s property and may not be disposed of without the Home Office’s written approval. The disposal of all devices shall be at no additional cost to the Home Office, and will be met by the Supplier, in accordance with the Waste Electrical and Electronic Equipment directive (WEEE). Further information on the WEEE directive can be found via the following link:

<http://ec.europa.eu/environment/waste/weee/legis_en.htm>

4.17 The Supplier shall maintain an auditable stock record of parts used by the devices. For the avoidance of doubt, the Supplier shall have sole responsibility to gauge the appropriate level of stock required to enable them to meet the requisite maintenance/repair service for each device as recommended by the manufacturer for the duration of the Contract.

**5. Reporting**

5.1 The Supplier shall operate and maintain appropriate systems, processes and records to ensure that it can, always, deliver timely and accurate Management Information relating to provision of the maintenance service to the Home Office at three monthly intervals.

5.2 This will include, but not be limited to, the number of devices serviced and/or repaired, the work performed on the device, the components replaced, the number of days between receipt of device into, and dispatch from, the Supplier’s workshop.

5.3 Reporting to be submitted to the Home Office, at monthly intervals. The first report will be due on the 15th of the third month post contract award. Subsequent reports with then be issued to the Home Office on the 15th day every three months. All reports will be emailed to the Home Office.

5.4 The supplier shall provide actual costs for the duration of contract. The first one to be supplied will be four weeks before contract start. A new projection will be submitted annually upon the anniversary date of the contact start date.

5.5 A named contract representative for the Supplier will be provided to the Home Office, along with contact details, upon the start of the contract.

**6. Complaints**

6.1 The Supplier shall ensure that any complaints received are dealt with as a matter of priority and the Supplier shall seek to minimise the disruption caused.

6.2 Complaints made by the Home Office shall be acknowledged by email by the Supplier within 24 hours of the details of the complaint being received by the Supplier. Thereafter updates on how the Supplier is proactively working to seek a resolution of the complaint shall be made by the Supplier to the Home Office at intervals of 2 working days, until a satisfactory resolution has been agreed which is mutually acceptable to both parties.

6.3 The Supplier shall provide comprehensive reports on all complaints to the Home Office by email on a monthly basis, or as requested by the Home Office. These reports shall include the date the complaint was received and resolved, complainant contact details, the nature of the complaint and actions agreed and taken to resolve the complaint. The Home Office will define any additional requirement with the Supplier during the initial meeting between the Supplier and the Home Office.

**7. Supplier Staff**

7.1 The Home Office requires the Supplier to provide an adequate level of resource throughout the duration of the Contract in order to consistently deliver a quality service.

7.2 The Supplier shall ensure that any member of staff assigned to the Contract has undertaken the appropriate training to gain experience and have obtained the relevant qualifications to deliver the Contract. For the avoidance of doubt, we would expect a minimum level of NEBOSH and preferred qualification of occupational hygienist.

7.3 The Supplier shall ensure that staff understand the Home Office’s vision and objectives and provide excellent customer service to the Home Office throughout the duration of the Contract.

**8. Key Milestones**

8.1 Following award of the Contract, key milestones will include timely delivery of ordered items and periodic updates as to performance of the planned maintenance programme.

8.2 The Supplier should note the following project milestones that the Home Office will measure the quality of delivery against:

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| --- | --- | --- |
| **Milestone** | **Description** | **Timeframe** |
| 1 | Risk assessment and details of twelve-month planned maintenance programme | 1 week prior to contract award |
| 2 | Meeting of The Home Office and Supplier key personnel to take place at a location TBA or via electronic means if face to face meetings can’t be staged. | Within week one (1) of Contract Award |
| 3 | Annual Review, this will include covering successes, failures and innovations at a location TBA. | On the anniversary of the contract start date |

**9. Key Service Levels**

9.1 During the contract duration, the Home Office set out the following key service levels to be met:

|  |  |  |
| --- | --- | --- |
| **KPI 1** | **Purchase of Device(s)** | |
| References | Para 9. Key Service Levels | |
| Definition | 100% of device(s) delivered within 28 days of Purchase Order being received | |
| Measure | The number of occasions when the agreed device(s) **are not** delivered within 28 days of the Purchase Order being received | |
| **Consequences** | **Level of Failure on each occasion** | **Service Credit** |
| Level 1 | Number of device(s) not delivered within 28 days of the Purchase Order being received | Fixed £30 per instance. This charge to reoccur at £30 per day each subsequent day the Service Level is not met. |

|  |  |  |
| --- | --- | --- |
| **KPI 2** | **Planned Maintenance** | |
| References | Para 4. Maintenance and Repair | |
| Definition | The Supplier shall undertake planned maintenance work and return the device(s) to the Home Office no later than 7 working days (95% of the time) | |
| Measure | The number of occasions planned maintenance of a device(s) is **not completed** as defined within the definition | |
| **Consequences** | **Level of Failure on each occasion** | **Service Credit** |
| Level 1 | 100% > 95% | No service credit |
| Level 2 | 95% < | Fixed £30 per instance. This charge to reoccur at £30 per day each subsequent day the Service Level is not met. |

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| --- | --- | --- |
| **KPI 3** | **Management Information Reports** | |
| References | Para 5. Reporting | |
| Definition | Receipt of appropriate management information by the Home Office within the requested timescale | |
| Measure | On each occasion the deadline is not met | |
| **Consequences** | **Level of Failure on each occasion** | **Service Credit** |
| Level 1 | Achievement of the target response time | No service credit |
| Level 2 | Failure to achieve the target response time | Fixed £30 per instance |

If 20 of these service credits are hit in any 3 month period, then consideration will be given to termination of the contract.

**10. Volumes**

10.1 During this period the Home Office expects to buy approximately 50-100 devices over 2 years. **These are indicative figures and shall not be construed as a commitment to purchase units during the period in this or any other quantity.**

**11. Location**

11.1 A national requirement exists for Personal Atmospheric Analysers and their maintenance in accordance with manufacturer’s recommendations. The devices will be deployed at maritime ports and other locations within the United Kingdom.

**12. Data Security**

12.1 It is mandatory for Suppliers by the commencement date of the Contract or later when Cyber Essentials Data are received by the Supplier to demonstrate that they meet the technical requirements prescribed by Cyber Essentials. This is in order to further reduce the levels of cyber security risks in their supply chains. The Cyber Essentials Scheme and the related Assurance Framework both indicate that there are two levels of protection in dealing with cyber security risks. These include a more basic level of assurance which is known as Cyber Essentials and a more advanced level of assurance known as "Cyber Essentials Plus". Regarding the Services, Suppliers must demonstrate that they have achieved the level of assurance known as Cyber Essentials. Suppliers shall demonstrate this in one of the ways listed below:

* A Supplier has a current and valid Cyber Essentials certificate which has been awarded by one of the HM government approved Cyber Essentials accreditation bodies within the most recent 12 months; or
* A Supplier has not got a current and valid Cyber Essentials certificate which has been awarded by one of the government approved Cyber Essentials accreditation bodies but is working towards gaining it, and will confirm that it has been awarded a current and valid Cyber Essentials certificate by one of the government approved accreditation bodies by the commencement date of the Contract or a later date when Cyber Essentials Data are received by the Supplier; or
* A Supplier has not got a current and valid Cyber Essentials certificate which has been awarded by one of the government approved Cyber Essentials accreditation bodies, but can demonstrate (or, will be able to demonstrate by the commencement date of the Contract or a later date when Cyber Essentials Data are received by the Supplier) that its organisation meets the technical requirements prescribed by the Cyber Essentials Scheme as detailed in the following link:

<https://www.cyberstreetwise.com/cyberessentials/files/requirements.pdf>

and that the Supplier can provide evidence of verification by a technically competent and independent third party (which has taken place within the most recent 12 months) that its organisation demonstrates compliance with Cyber Essentials technical requirements.

* A Supplier will be exempt from complying with the data requirements where a Supplier conforms to the ISO27001 standard and the Cyber Essentials requirements have been included in the scope of that standard, and verified as such and the certification body carrying out this verification is approved to issue a Cyber Essentials certificate by one of the government approved Cyber Essentials accreditation bodies referred to in paragraph 20.1.2 above.

12.2 The Supplier shall throughout the duration of the Contract renew its Cyber Essentials certificate immediately after the expiration of a period of 12 consecutive months from the date that the same was first issued or last renewed; or where the Supplier does not have a Cyber Essentials certificate but has provided evidence from a technically competent and independent third party that its organisation demonstrates compliance with Cyber Essentials requirements, it shall immediately after the expiration of a period of 12 months from any date that such evidence was provided, provide the Home Office with evidence of the same kind by way of a renewal of the demonstration that it is able to comply with Cyber Essentials requirements.

12.3 The Supplier shall ensure that its Sub-Contractors comply with the provisions of data security where such Sub-Contractors are responsible for receiving Cyber Essentials Data.

Details about the Cyber Essentials Scheme and the Assurance Framework can be accessed via the following link:

<https://www.gov.uk/government/publications/cyber-essentials-scheme-overview>

**13. Trial**

13.1There will be an approximate one month’s trial for any device to ensure it is suitable for Border Force use.

13.2 The trial is expected to be conducted on commercial vessels. The device is to be worn on the body when entering confined spaces. In addition, they will be lowered into cargo holds either on ropes or via a fitting for this purpose if the unit has one.

13.3 They will be used in conjunction with positive pressure self-contained airline breathing apparatus that the teams operate inside empty water tanks and other spaces that contain air at atmospheric pressure.

13.4 The trial criteria will be

1. Battery life, charging time, charging options (12V/USB etc.)
2. Ease of use – TWA, Confidence beep, peak flows, on/off and cycling through options. Simplicity
3. Carriage ability – ergonomics, study clip
4. Appropriate ancillaries – sampling hose, rubber boot/case,
5. Calibration station, ease of use, initial instruction and ongoing support
6. Availability of annual statistics for life of contract, average maintenance costs per year
7. Ability to download and analyse data, number of uses, number of alarms
8. Robustness to dropping, moisture, oil
9. Reliability

Based on this expectation, 60% of the overall (100%) marks will be based on the field trial as follows:

* 100% (of the above 60% overall marks) will be scored for an outstanding item covers all points expected & exceeds the above expectations.
* 75% (of the above 60% overall marks) will be scored for a good item that satisfactorily covers all expectations.
* 50% (of the above 60% overall marks) will be awarded for an item that covers all expectations but may not cover all or some of them satisfactorily.
* 25% (of the above 60% overall marks) will be awarded for a less than satisfactory item that only covers most expectations.
* 0% (of the above 60% overall marks) will be awarded for a substantially less than satisfactory item that does not cover any expectations and/or there is no item provided to trial.

13.5 The trial is expected to take place for approximately one month following the submission of tender’s deadline on Wednesday 12th August. Once requested by the Home Office, it will be the responsibility of bidders to have delivered a sample of their Personal Atmosphere Analyser at postal address:

HO Felixstowe NDRT.

FAO Richard Castle

Custom House,

View Point Road,

Felixstowe,

IP11 3RF

13.6 The trial item should be delivered on or 2 working days before the actual trial date, which we will advise to all bidders on or shortly after the deadline submission date. All bidders should ensure their item is clearly labelled and has clear written instructions on its use. On conclusion of the trials, please advise the contact at Border Force, Richard Castle, to confirm that the item is ready for collection. Collection will be at the bidder’s expense.

**Additionally, please indicate:**

14.1 Throughout the specification reference is made to calibration as this is currently amanual process. However, since the original alarms were obtained technology has progressed and there are ‘self-calibrating’ devices on the market currently. Such a feature would be advantageous as this would help alleviate the downtime of devices being inoperative.

14.2 Please provide a price list of all likely repair & maintenance costs? Particularly including the cost of an annual service charge at the UK location where the item was delivered to with your bid.

**Information for bidders:**

15.1 Any questions, queries or clarifications regarding this tender should be submitted to [Paul.Tooke@homeoffice.gov.uk](mailto:Paul.Tooke@homeoffice.gov.uk) by 12 noon on Monday 10th August 2020 at the latest.

15.2 All written submissions should be submitted to [Paul.Tooke@homeoffice.gov.uk](mailto:Paul.Tooke@homeoffice.gov.uk) by 12 noon on Wednesday 12th August 2020 at the latest.

15.3 The financial evaluation will represent 40% of the overall marks. The lowest price made up of the total supply cost of 1 x Atmosphere Analyser device (including the item cost of any accessories sent by the bidder for the trial) and the cost of the 2 x annual services expected during the 2 year duration of the contract at the UK location where the item was delivered to will be awarded the full 40% of the overall marks. All other bids will be scored as a percentage of this. For example: if the lowest combined price bid is £100 and the second lowest bid is £120, then the £100 bid price is awarded the full 40% of the overall financial marks and the £120 bid is awarded 33.33% of the overall marks. (This is calculated by dividing £120 into £100 & multiplying by 40 which equals 33.33.)

The total overall technical 60% marks score & the 40% marks financial score of each bidder will then be added up. The bidder with the highest aggregate percentage marks score will be awarded the contract.

15.4 The contract duration shall be from 1st October 2020 until 30th September 2022 and all charges shall remain fixed for that 24 months contract duration.

15.5 No guarantee can be given of any minimum number of orders or minimum value of spend, that will be placed with the successful bidder.

15.6 Please note any agreement signed with your Company will be subject to the Standard Home Office Terms and Conditions contract (attached for reference). The Home Office does **not** have any scope to negotiate on these terms & conditions.