**TECHNICAL PROPOSAL**

Designation and description of test method:

**Detection of hydrocarbon vapours from piping fugitive emissions with the use of Optical gas imaging (OGI) camera.**

In view of the qualification and technical requirements provided by the Buyer, the Supplier shall fill in the below tables:

*Table 1*

**Qualification and technical requirements applicable to laboratory equipment**

| **Item No** | **Criterion** | **Requirement [specify]** | **Information provided by Supplier** |
| --- | --- | --- | --- |
| 1. | Qualification of Supplier’s employees | Provide documented information that the Supplier's employees or those of its subcontractors have been properly trained to commission the respective equipment. |  |
| 2. | Suitability of equipment for tests according to specified test methods: *not specified - if equipment proposed by you meets some specific method, please indicate it.*  The manufacturer's certificate shall confirm the compliance of the instrument with the specified standard. | Submit manufacturer's technical documentation or certificate proving that equipment is suitable for tests according to the said test method. |  |
| 3. | Deadline for commissioning | The term for commissioning the equipment is max 60 days. |  |
| 4. | Warranty terms and conditions | Not less than 12 months; provide the terms and conditions for after-sales service for warranty periods longer than 12 months. |  |
| 5. | Supplier's response time during the warranty period. | Response time (arrival at the Refinery if there is no other way of fixing faults) during the warranty period is max 72 hours. |  |
| 6. | Submit equipment safe operation manual (document) in the English/Lithuanian language (preferably in Lithuanian). | Undertake to present the safe operation manual (document) in the English/Lithuanian language (preferably in Lithuanian) together with the supplied equipment. |  |
| 7. | Pre-commissioning/commissioning and training to be provided after the delivery of the equipment. | Undertake to perform pre-commissioning/commissioning and training after the delivery of the equipment. |  |
| 8. | Transfer of information relating to maintenance and repair of equipment to the equipment maintenance technicians of the QA/QC Center after the expiry of the warranty period. | Undertake to submit information relating to maintenance and repair of equipment to the equipment maintenance technicians of the QA/QC Center after the expiry of the warranty period. |  |

*Table 2*

**Special technical requirements applicable to equipment**

| **Item No** | **Characteristics** | **Limit values, UoM [indicated]** | **Limit values, UoM (to be specified by Supplier)** |
| --- | --- | --- | --- |
| 1. | **Equipment type:** | | |
| Automatic | Equipment for detection of fugitive hydrocarbon vapors from piping emissions.  Optical gas imaging (OGI) camera for hydrocarbon vapor detection with memory card, battery, battery charger, rigid transportation case and all other required accessories.  Ex design. |  |
| Semi-automatic | x |  |
| Manual | x |  |
| **Equipment manufacturer, model:** | FLIR G – Series, Model G620 24° |  |
| 2. | Software | Automatically controls the process, with a standard program for presentation of the results. |  |
| 3. | Measuring range, accuracy | Resolution 640 × 480 pixel  Temperature accuracy of ±1°C over (0 – 100)°C range, ±2% at >100°C. |  |
| 4. | **Sample injection system:** | | |
| Automatic | x |  |
| Separate system | x |  |
| Manual | x |  |
| 5. | Heating/cooling system | x |  |
| 6. | **Connection to other equipment, auxiliaries:** | | |
| Computer | x |  |
| Keyboard | x |  |
| Printer | x |  |
| Computer network via LAN | x |  |
| Wires | Wires with connectors to connect equipment with computer. |  |
| 7. | **Auxiliaries:** | | |
| Spec. set for calibration |  |  |
| Filter |  |  |
| Other [specify] | All necessary tools for working with the equipment. |  |
| 8. | **Calibration and verification:** | | |
| At QA/QC Center | x |  |
| Manufacturer’s calibration and CRM verification certificates | x |  |
| 9. | A set of spares sufficient for 12 months. | Spares sufficient for 12-months operation of the equipment. |  |
| 10. | Computer | x |  |
| 11. | Printer | x |  |
| 12. | Certified reference material | x |  |
| 13. | **Gas cylinder required (purity class):** | | |
| N2. | x |  |
| H2. | x |  |
| O2. | x |  |
| He | x |  |
| Ar | x |  |
| 14. | **Sampling equipment for:** | | |
| Liquefied petroleum gas | x |  |
| Liquids | x |  |
| Refining gas | x |  |
| Other [specify] | x |  |
| 15. | **Equipment for preparation of test samples:** | | |
| Homogenizer | x |  |
| Shaker | x |  |
| Other [specify] | x |  |
| 16. | **Scales:** | | |
| Micro-analytical | x |  |
| Analytical | x |  |
| Technical | x |  |
| Other [specify] | x |  |
| 17. | **Dimensions:** | | |
| Height | 17.09 cm |  |
| Width | 25.16 cm |  |
| Depth | 16.45 cm |  |
| 18. | Other [specify] | x |  |

*Table 3*

**General information on the offered equipment**

|  |  |
| --- | --- |
| **Information required** | **Information provided by Supplier** |
| Name/model of equipment |  |
| Information about the manufacturer, country of origin, language of the user manuals, passport |  |
| Confirmation that the equipment complies with the requested test method; additional test methods that the offered equipment complies with. |  |
| A summary of the technical/operational characteristics, highlighting the advantages of the offered equipment. |  |

*Table 4*

**Detailed description of the equipment set, additional equipment and auxiliaries.**

**(to be specified by Supplier)**

|  |  |
| --- | --- |
| **Name** | **Quantity, units** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

*Table 5*

**Recommended set of spares and consumables for 1 year**

**(to be specified by Supplier)**

|  |  |
| --- | --- |
| **Name** | **Quantity, units** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |