Tender

3073/JN - Sustainable Aviation Fuels - Innovation Centre: Aviation Characterisation Laboratory Equipment (16 Lots)

UNIVERSITY OF SHEFFIELD

F02: Contract notice
Notice identifier: 2021/S 000-025971
Procurement identifier (OCID): ocds-h6vhtk-02ece0
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Section I: Contracting authority

I.1) Name and addresses

UNIVERSITY OF SHEFFIELD

SHEFFIELD

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Contact

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Country

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NUTS code

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Main address

https://in-tendhost.co.uk/sheffield/

I.3) Communication

The procurement documents are available for unrestricted and full direct access, free of charge, at

https://in-tendhost.co.uk/sheffield/

Additional information can be obtained from the above-mentioned address

Tenders or requests to participate must be submitted electronically via

https://in-tendhost.co.uk/sheffield/

I.4) Type of the contracting authority

Body governed by public law

I.5) Main activity

Education

Section II: Object

II.1) Scope of the procurement

II.1.1) Title

3073/JN - Sustainable Aviation Fuels - Innovation Centre: Aviation Characterisation Laboratory Equipment (16 Lots)

Reference number

3073/JN

II.1.2) Main CPV code

- 38000000 - Laboratory, optical and precision equipments (excl. glasses)

II.1.3) Type of contract

Supplies

II.1.4) Short description

The University of Sheffield (UoS) with funding from the European Regional Development Fund (ERDF) is establishing a Sustainable Aviation Fuels Innovation Centre (SAF-IC) to support and promote the production and characterisation of decarbonised and sustainable aviation fuel. To complement our research capability, we are looking to procure a range of test equipment approved to various ASTM (American Society for Testing and Materials) standards as well as other internationally recognised standards where appropriate.

II.1.5) Estimated total value

Value excluding VAT: £510,000

II.1.6) Information about lots

This contract is divided into lots: Yes

Tenders may be submitted for all lots

II.2) Description

II.2.1) Title

Automated Water Solubility Test Device - ASTM D6304

Lot No

1

II.2.2) Additional CPV code(s)

- 38400000 - Instruments for checking physical characteristics
- 38500000 - Checking and testing apparatus

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Sustainable Aviation Fuels - Innovation Centre (SAF-IC), Aviation Characterisation Laboratory, Europa Ave, Tinsley, Sheffield

II.2.4) Description of the procurement

In order to complement our research capability in keeping with the aviation fuel aviation characterisation requirements, we are looking to procure an Automated Water Solubility Test Device for precise and reliable aviation fuel testing in agreement with ASTM D6304.

This test method covers the direct determination of entrained water in petroleum products and hydrocarbons using automated instrumentation. This test method also covers the indirect analysis of water thermally removed from samples and swept with dry inert gas into the titration cell. The precision statement of this method covers the nominal range of 20 mg kg to 25 000 mg/kg.

II.2.5) Award criteria

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) Estimated value

Value excluding VAT: £16,000

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system

Start date

24 February 2022

End date

25 February 2022

This contract is subject to renewal

No

II.2.10) Information about variants

Variants will be accepted: No

II.2.11) Information about options

Options: No

II.2.14) Additional information

This procurement is related to a project and/or programme financed by European Union funds.

Identification of the project: European Regional Development Fund (ERDF)

II.2) Description

II.2.1) Title

Dynamic Viscosity Measurement Device - ASTM D7042

Lot No

2

II.2.2) Additional CPV code(s)

- 38400000 - Instruments for checking physical characteristics
- 38500000 - Checking and testing apparatus

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Sustainable Aviation Fuels - Innovation Centre (SAF-IC), Aviation Characterisation Laboratory, Europa Ave, Tinsley, Sheffield

II.2.4) Description of the procurement

In order to complement our research capability in keeping with the aviation fuel aviation characterisation requirements, we are looking to procure an : Dynamic Viscosity Measurement Device for precise and reliable testing results in keeping with ASTM D7042.

This test method covers and specifies a procedure for the concurrent measurement of both the dynamic viscosity, , and the density, , of liquid petroleum products and crude oils, both transparent and opaque. The kinematic viscosity, , can be obtained by dividing the dynamic viscosity, , by the density, , obtained at the same test temperature. The result obtained from this test method is dependent upon the behaviour of the sample and is intended for application to liquids for which primarily the shear stress and shear rate are proportional (Newtonian flow behaviour).

Viscosity decreases with increasing temperature, but the form of the functionality is not as simple as for density. Many mathematical descriptions for viscosity as a function of temperature have been proposed, and the form of that functionality differs among the models.

II.2.5) Award criteria

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) Estimated value

Value excluding VAT: £44,000

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system

Start date

24 February 2022

End date

25 February 2022

This contract is subject to renewal

No

II.2.10) Information about variants

Variants will be accepted: No

II.2.11) Information about options

Options: No

II.2.14) Additional information

This procurement is related to a project and/or programme financed by European Union funds.

Identification of the project: European Regional Development Fund (ERDF)

II.2) Description

II.2.1) Title

Simulated Distillation Unit based on Gas Chromatography - ASTM D2887 and IP 406

Lot No

3

II.2.2) Additional CPV code(s)

- 38400000 - Instruments for checking physical characteristics

- 38500000 - Checking and testing apparatus

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Sustainable Aviation Fuels - Innovation Centre (SAF-IC), Aviation Characterisation Laboratory, Europa Ave, Tinsley, Sheffield

II.2.4) Description of the procurement

In order to complement our research capability in keeping with the aviation fuel aviation characterisation requirements, we are looking to procure an Simulated Distillation Unit based on Chromatography for precise and reliable testing results in keeping with ASTM D2887 and IP 406.

ASTM D2887 covers the determination of the boiling range distribution of petroleum products. Simulated distillation is a GC method used to characterise petroleum fractions and products, since it permits the

quick determination of their boiling range distribution. Samples are analysed on a non-polar chromatographic column that separates the hydrocarbons in order of their boiling points. These are correlated with the retention times, through a calibration curve obtained by running under the same conditions a known mixture of hydrocarbons, usually n-alkanes, covering the boiling range expected in the sample. Results are reported as a correlation between the boiling points and the percentages of the sample eluted from the column.

The determination of the boiling range distribution of petroleum fractions by conventional GC is a rapid

analytical tool, which is widely used to replace conventional distillation methods for control of refining

operations and specification testing.

The test method is applicable to petroleum products and fractions with a final boiling point of 538 °C (1000 °F) or lower at atmospheric pressure as measured by this test method. This test method is limited to samples having a boiling range greater than 55.5 °C (100 °F), and having a vapor pressure sufficiently low to permit sampling at ambient temperature.

II.2.5) Award criteria

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) Estimated value

Value excluding VAT: £29,000

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system

Start date

24 February 2022

End date

25 February 2022

This contract is subject to renewal

No

II.2.10) Information about variants

Variants will be accepted: No

II.2.11) Information about options

Options: No

II.2.14) Additional information

This procurement is related to a project and/or programme financed by European Union funds.

Identification of the project: European Regional Development Fund (ERDF)

II.2) Description

II.2.1) Title

Automated Lubricity Measurement Device - ASTM D5001

Lot No

4

II.2.2) Additional CPV code(s)

- 38400000 - Instruments for checking physical characteristics
- 38500000 - Checking and testing apparatus

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Sustainable Aviation Fuels - Innovation Centre (SAF-IC), Aviation Characterisation Laboratory, Europa Ave, Tinsley, Sheffield

II.2.4) Description of the procurement

In order to complement our research capability in keeping with the aviation fuel aviation characterisation requirements, we are looking to procure an automated lubricity measurement device for precise and reliable aviation fuel testing in keeping with ASTM D5001.

This test method covers assessment of the wear aspects of the boundary lubrication properties of aviation turbine fuels on rubbing steel surfaces. This test method incorporates two procedures, one using a semi automated and the second is a fully automated. We are seeking to purchase the second option, the fully automated instrument.

II.2.5) Award criteria

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) Estimated value

Value excluding VAT: £13,000

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system

Start date

24 February 2022

End date

25 February 2022

This contract is subject to renewal

No

II.2.10) Information about variants

Variants will be accepted: No

II.2.11) Information about options

Options: No

II.2.14) Additional information

This procurement is related to a project and/or programme financed by European Union funds.

Identification of the project: European Regional Development Fund (ERDF)

II.2) Description

II.2.1) Title

Automated Test Device for Determining Specific Heat Capacity by Differential Scanning Calorimetry - ASTM E1269

Lot No

5

II.2.2) Additional CPV code(s)

- 38400000 - Instruments for checking physical characteristics
- 38500000 - Checking and testing apparatus

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Sustainable Aviation Fuels - Innovation Centre (SAF-IC), Aviation Characterisation Laboratory, Europa Ave, Tinsley, Sheffield

II.2.4) Description of the procurement

In order to complement our research capability in keeping with the aviation fuel aviation characterisation requirements, we are looking to procure an automated test device for determining specific heat by Differential Scanning Calorimetry for precise and reliable aviation fuel testing in keeping with ASTM E1269.

The specific heat of a fuel is the amount of heat-energy transferred into or out of a unit mass of the fuel when increasing or decreasing its temperature. In fuel system analysis, specific heats are used in the calculation of heat transfer, using the fuel as a coolant or as a heat sink. Specific heat is given in terms of kilojoules per kilogram.

This test method covers the determination of specific heat capacity by differential scanning calorimetry. This test method is generally applicable to thermally stable solids and liquids. The normal operating range of the test is from -100 600 °C. The temperature range can be extended depending on instrumentation and sample.

II.2.5) Award criteria

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) Estimated value

Value excluding VAT: £65,000

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system

Start date

24 February 2022

End date

25 February 2022

This contract is subject to renewal

No

II.2.10) Information about variants

Variants will be accepted: No

II.2.11) Information about options

Options: No

II.2.14) Additional information

This procurement is related to a project and/or programme financed by European Union funds.

Identification of the project: European Regional Development Fund (ERDF)

II.2) Description

II.2.1) Title

Automated Freeze Point Test Device - ASTM D2386

Lot No

6

II.2.2) Additional CPV code(s)

- 38400000 - Instruments for checking physical characteristics
- 38500000 - Checking and testing apparatus

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Sustainable Aviation Fuels - Innovation Centre (SAF-IC), Aviation Characterisation Laboratory, Europa Ave, Tinsley, Sheffield

II.2.4) Description of the procurement

In order to complement our research capability in keeping with the aviation fuel aviation characterisation requirements, we are looking to procure an Automated Freeze Point Test Device for precise and reliable aviation fuel testing in agreement with ASTM D2386.

This test method covers the determination of the temperature below which solid hydrocarbon crystals may form in aviation turbine fuels and aviation gasoline. If no crystallization point or freezing point can be measured, this test can be used to report the lowest measurable temperature reached before the crystallization point.

II.2.5) Award criteria

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) Estimated value

Value excluding VAT: £11,000

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system

Start date

24 February 2022

End date

25 February 2022

This contract is subject to renewal

No

II.2.10) Information about variants

Variants will be accepted: No

II.2.11) Information about options

Options: No

II.2.14) Additional information

This procurement is related to a project and/or programme financed by European Union funds.

Identification of the project: European Regional Development Fund (ERDF)

II.2) Description

II.2.1) Title

Automated Flash Point Test Device - ASTM D56, ASTM D3828 or ASTM D93

Lot No

7

II.2.2) Additional CPV code(s)

- 38400000 - Instruments for checking physical characteristics
- 38500000 - Checking and testing apparatus

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Sustainable Aviation Fuels - Innovation Centre (SAF-IC), Aviation Characterisation Laboratory, Europa Ave, Tinsley, Sheffield

II.2.4) Description of the procurement

In order to complement our research capability in keeping with the aviation fuel aviation characterisation requirements, we are looking to procure an automated flash point test device for precise and reliable aviation fuel testing in keeping with ASTM D56. ASTM D3828 or ASTM D93.

This test method covers procedures for flash point tests, within the range of -30 ° C to 300 ° C of petroleum liquid products and bio-derived fuels biodiesel such as biodiesel, etc. The procedure may be used to determine, whether a product will or will not flash at specific.

II.2.5) Award criteria

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) Estimated value

Value excluding VAT: £21,000

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system

Start date

24 February 2022

End date

25 February 2022

This contract is subject to renewal

No

II.2.10) Information about variants

Variants will be accepted: No

II.2.11) Information about options

Options: No

II.2.14) Additional information

This procurement is related to a project and/or programme financed by European Union funds.

Identification of the project: European Regional Development Fund (ERDF)

II.2) Description

II.2.1) Title

Digital Density Meter - ASTM D4052

Lot No

8

II.2.2) Additional CPV code(s)

- 38400000 - Instruments for checking physical characteristics
- 38500000 - Checking and testing apparatus

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Sustainable Aviation Fuels - Innovation Centre (SAF-IC), Aviation Characterisation Laboratory, Europa Ave, Tinsley, Sheffield

II.2.4) Description of the procurement

In order to complement our research capability in keeping with the aviation fuel aviation characterisation requirements, we are looking to procure an Digital Density Meter for precise and reliable testing results in keeping with ASTM D4052.

This test method covers the determination of the density, relative density, and API Gravity of petroleum products and viscous oils, which can be handled as liquids at the temperature of test, using either manual or automated sample injection equipment. However, what we are

seeking to buy is an automated sample injection device. The application of this method is restricted to liquids with total vapor pressure below approximately 15 000 mm2/s at the temperature of test. The total vapor pressure limitation however can be extended to 100 kPa provided that it is first ascertained that no bubbles form in the U-tube, which can affect the density determination. Some examples of products that may be tested by this procedure include: gasoline and gasoline-oxygenate blends, diesel, jet, basestocks, waxes, and lubricating oils.

Density is the mass per unit volume relationship of fluids. Generally, relative density is the ratio of the density of a particular liquid fuel to the density of water at 15.5°C and is commonly referred to as specific gravity. These relationships are important in the design of aircraft and missiles, since fuel density variations can have significant impact on determining loaded weight and the range attainable. They are also used in flow calculations, fuel gaging, metering device considerations, fuel loading, thermal expansion of fuels, and fuel tank design. Temperature has a marked and inverse effect on the density of fuels. As the temperature increases, the density of a fuel decreases.

Relative density, or specific gravity, is dimensionless since it is a ratio of the density of a substance to the

density of a reference substance, namely water. Density varies with temperature therefore the temperature of the liquid being compared to the reference substance and the temperature of the reference substance, itself, must be given. Relative density can also be expressed in terms of American Petroleum Institute (API) gravity.

II.2.5) Award criteria

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) Estimated value

Value excluding VAT: £75,000

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system

Start date

24 February 2022

End date

25 February 2022

This contract is subject to renewal

No

II.2.10) Information about variants

Variants will be accepted: No

II.2.11) Information about options

Options: No

II.2.14) Additional information

This procurement is related to a project and/or programme financed by European Union funds.

Identification of the project: European Regional Development Fund (ERDF)

II.2) Description

II.2.1) Title

Conductivity Response - ASTM D2624

Lot No

9

II.2.2) Additional CPV code(s)

- 38400000 - Instruments for checking physical characteristics
- 38500000 - Checking and testing apparatus

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Sustainable Aviation Fuels - Innovation Centre (SAF-IC), Aviation Characterisation Laboratory, Europa Ave, Tinsley, Sheffield

II.2.4) Description of the procurement

In order to complement our research capability in keeping with the aviation fuel aviation characterisation requirements, we are looking to procure an automated conductivity response device for precise and reliable aviation fuel testing in agreement with ASTM D2624.

These test methods cover the determination of the electrical conductivity of aviation fuels and liquid distillates with and/or without a static dissipator additive. The test methods normally give a measurement of the conductivity when the fuel is uncharged, that is, electrically at rest (known as the rest

conductivity). Two test methods are available for field tests of fuel conductivity. These are: (1) portable meters for the direct measurement in tanks or the field or laboratory measurement of fuel samples, and (2) in-line meters for the continuous measurement of fuel conductivities in a fuel distribution system. In using portable meters, care must be taken in allowing the relaxation of residual electrical charges before measurement and in preventing fuel contamination.

II.2.5) Award criteria

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) Estimated value

Value excluding VAT: £21,000

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system

Start date

24 February 2022

End date

25 February 2022

This contract is subject to renewal

No

II.2.10) Information about variants

Variants will be accepted: No

II.2.11) Information about options

Options: No

II.2.14) Additional information

This procurement is related to a project and/or programme financed by European Union funds.

Identification of the project: European Regional Development Fund (ERDF)

II.2) Description

II.2.1) Title

Automated Atmospheric Distillation Analyser - ASTM D86, IP 123, ASTM D7344 and ASTM D7345

Lot No

10

II.2.2) Additional CPV code(s)

- 38400000 - Instruments for checking physical characteristics
- 38500000 - Checking and testing apparatus

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Sustainable Aviation Fuels - Innovation Centre (SAF-IC), Aviation Characterisation

Laboratory, Europa Ave, Tinsley, Sheffield

II.2.4) Description of the procurement

In order to complement our research capability in keeping with the aviation fuel aviation characterisation requirements, we are looking to procure an Automated Atmospheric Distillation Analyser for precise and reliable testing results in order to correlate with various testing standards such as ASTM D86, IP 123, ASTM D7344 and ASTM D7345

Distillation analyser is used to measure the boiling points of the various products such as gasoline, jet fuel, diesel products, biofuel, solvents, aromatics, organic liquid, and chemicals. Distillation analysis is the process of separating the components or substance from a liquid mixture by using selective boiling points and condensation. Distillation analyser should facilitate the process of distillation analysis by providing a broad range of temperature for measurement with sample inlet and outlet facility. Features such as true atmospheric distillation, and automatic temperature control, built-in pressure sensor, automatic barometric correction, and extensive connectivity makes distillation analyser user-friendly. Furthermore, portability, and remote access via the Internet ultimately eases the process of distillation analysis. Easy operating and accurate distillation testing results due to technological advancement is one of the vital factors that we are considering in our decision.

II.2.5) Award criteria

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) Estimated value

Value excluding VAT: £30,000

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system

Start date

24 February 2022

End date

25 February 2022

This contract is subject to renewal

No

II.2.10) Information about variants

Variants will be accepted: No

II.2.11) Information about options

Options: No

II.2.14) Additional information

This procurement is related to a project and/or programme financed by European Union funds.

Identification of the project: European Regional Development Fund (ERDF)

II.2) Description

II.2.1) Title

Automated Vapor Pressure Device - ASTM D6378

Lot No

11

II.2.2) Additional CPV code(s)

- 38400000 - Instruments for checking physical characteristics
- 38500000 - Checking and testing apparatus

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Sustainable Aviation Fuels - Innovation Centre (SAF-IC), Aviation Characterisation Laboratory, Europa Ave, Tinsley, Sheffield

II.2.4) Description of the procurement

In order to complement our research capability in keeping with the aviation fuel aviation characterisation requirements, we are looking to procure an Automated Vapor Pressure Device for precise and reliable aviation fuel testing in keeping with ASTM D6378.

This test method covers the use of automated vapor pressure instruments to determine the vapor pressure exerted in vacuum by volatile, liquid petroleum products, hydrocarbons, and hydrocarbon-oxygenate mixtures including ethanol blends up to 85 % (volume fraction). This test method is suitable for testing samples with boiling points above 0 °C (32 °F) that exert a vapor pressure between 7 kPa and 150 kPa (1.0 psi and 21 psi) at 37.8 °C (100 °F) at a vapor-to-liquid ratio of 4:1.

II.2.5) Award criteria

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) Estimated value

Value excluding VAT: £44,000

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system

Start date

24 February 2022

End date

25 February 2022

This contract is subject to renewal

No

II.2.10) Information about variants

Variants will be accepted: No

II.2.11) Information about options

Options: No

II.2.14) Additional information

This procurement is related to a project and/or programme financed by European Union funds.

Identification of the project: European Regional Development Fund (ERDF)

II.2) Description

II.2.1) Title

Automated Total Acid Number - ASTM D664

Lot No

12

II.2.2) Additional CPV code(s)

- 38400000 - Instruments for checking physical characteristics
- 38500000 - Checking and testing apparatus

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Sustainable Aviation Fuels - Innovation Centre (SAF-IC), Aviation Characterisation Laboratory, Europa Ave, Tinsley, Sheffield

II.2.4) Description of the procurement

In order to complement our research capability in keeping with the aviation fuel aviation characterisation requirements, we are looking to procure an automated device for total acid number for precise and reliable aviation fuel testing in agreement with ASTM D664.

This test method covers procedures for the determination of acidic constituents in

petroleum products, lubricants, biodiesel, and blends of biodiesel. The test method may be used to indicate relative changes that occur in oil during use under oxidizing conditions regardless of the colour or other properties of the resulting oil. Although the titration is made under definite equilibrium conditions, the test method is not intended to measure an absolute acidic property that can be used to predict performance of oil under service conditions.

II.2.5) Award criteria

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) Estimated value

Value excluding VAT: £45,000

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system

Start date

24 February 2022

End date

25 February 2022

This contract is subject to renewal

No

II.2.10) Information about variants

Variants will be accepted: No

II.2.11) Information about options

Options: No

II.2.14) Additional information

This procurement is related to a project and/or programme financed by European Union funds.

Identification of the project: European Regional Development Fund (ERDF)

II.2) Description

II.2.1) Title

Automated Tensiometer - ASTM D1331

Lot No

13

II.2.2) Additional CPV code(s)

- 38400000 - Instruments for checking physical characteristics
- 38500000 - Checking and testing apparatus

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Sustainable Aviation Fuels - Innovation Centre (SAF-IC), Aviation Characterisation Laboratory, Europa Ave, Tinsley, Sheffield

II.2.4) Description of the procurement

In order to complement our research capability in keeping with the aviation fuel aviation characterisation requirements, we are looking to procure an automated Tensiometer for precise and reliable aviation fuel testing in keeping with ASTM D1331.

Surface tension is a measurement of the cohesive energy present at an interface. Values for surface tension are usually given when the surface of the liquid is in contact with air. This understanding is important in two key fuel areas:

• The movement of gas (air) into and out of turbine fuel

• The movement of turbine fuel into airstreams by atomization

The same concepts apply when the interface is between two liquids, where it is typically called interfacial

tension. This is important to the movement of water into and out of turbine fuel, and is a key topic in fuel handling and cleanliness. Fluids with large cohesive forces among molecules, like those found in water, exhibit high surface tensions. Non polar fluids such as hydrocarbons have lower internal cohesive forces and lower surface tensions. Surface tension decreases toward zero as temperature increases, and cohesive forces are overcome until, at the fluid's critical temperature, surface tension becomes negligible.

II.2.5) Award criteria

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) Estimated value

Value excluding VAT: £18,000

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system

Start date

24 February 2022

End date

25 February 2022

This contract is subject to renewal

No

II.2.10) Information about variants

Variants will be accepted: No

II.2.11) Information about options

Options: No

II.2.14) Additional information

This procurement is related to a project and/or programme financed by European Union funds.

Identification of the project: European Regional Development Fund (ERDF)

II.2) Description

II.2.1) Title

Automated Trace Sulphur Analyser - ASTM D5453

Lot No

14

II.2.2) Additional CPV code(s)

- 38400000 - Instruments for checking physical characteristics
- 38500000 - Checking and testing apparatus

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Sustainable Aviation Fuels - Innovation Centre (SAF-IC), Aviation Characterisation Laboratory, Europa Ave, Tinsley, Sheffield

II.2.4) Description of the procurement

In order to complement our research capability in keeping with the aviation fuel aviation characterisation requirements, we are looking to procure an automated trace sulphur analyser for precise and reliable aviation fuel testing in agreement with ASTM D5453.

This test method covers the determination of total sulphur in liquid hydrocarbons, boiling in the range from approximately 25 °C to 400 °C, with viscosities between approximately 0.2 cSt and 20 cSt (mm2/s) at room temperature.

II.2.5) Award criteria

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) Estimated value

Value excluding VAT: £34,000

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system

Start date

24 February 2022

End date

25 February 2022

This contract is subject to renewal

No

II.2.10) Information about variants

Variants will be accepted: No

II.2.11) Information about options

Options: No

II.2.14) Additional information

This procurement is related to a project and/or programme financed by European Union funds.

Identification of the project: European Regional Development Fund (ERDF)

II.2) Description

II.2.1) Title

Automated Smoke Point Analyser - ASTM D1322

Lot No

15

II.2.2) Additional CPV code(s)

- 38400000 - Instruments for checking physical characteristics
- 38500000 - Checking and testing apparatus

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Sustainable Aviation Fuels - Innovation Centre (SAF-IC), Aviation Characterisation Laboratory, Europa Ave, Tinsley, Sheffield

II.2.4) Description of the procurement

In order to complement our research capability in keeping with the aviation fuel aviation characterisation requirements, we are looking to procure an automated smoke point analyser for precise and reliable aviation fuel testing in agreement with ASTM D1322.

This test method covers two procedures for determination of the smoke point of kerosene and aviation turbine fuel, a manual procedure and an automated procedure, which give results with different precision.

We are seeking to purchase the automated device. This test method provides an indication of the relative

smoke producing properties of kerosenes and aviation turbine fuels in a diffusion flame. The smoke point is related to the hydrocarbon type composition of such fuels. Generally the more aromatic the fuel the smokier the flame. A high smoke point indicates a fuel of low smoke producing tendency.

II.2.5) Award criteria

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) Estimated value

Value excluding VAT: £20,000

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system

Start date

24 February 2022

End date

25 February 2022

This contract is subject to renewal

No

II.2.10) Information about variants

Variants will be accepted: No

II.2.11) Information about options

Options: No

II.2.14) Additional information

This procurement is related to a project and/or programme financed by European Union funds.

Identification of the project: European Regional Development Fund (ERDF)

II.2) Description

II.2.1) Title

Automated Vapor Pressure Device - ASTM D6378

Lot No

16

II.2.2) Additional CPV code(s)

- 38400000 - Instruments for checking physical characteristics
- 38500000 - Checking and testing apparatus

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Sustainable Aviation Fuels - Innovation Centre (SAF-IC), Aviation Characterisation Laboratory, Europa Ave, Tinsley, Sheffield

II.2.4) Description of the procurement

In order to complement our research capability in keeping with the aviation fuel aviation characterisation requirements, we are looking to procure an Automated Vapor Pressure Device for precise and reliable aviation fuel testing in keeping with ASTM D6378.

This test method covers the use of automated vapor pressure instruments to determine the vapor pressure exerted in vacuum by volatile, liquid petroleum products, hydrocarbons, and hydrocarbon-oxygenate mixtures including ethanol blends up to 85 % (volume fraction). This test method is suitable for testing samples with boiling points above 0 °C (32 °F) that exert a vapor pressure between 7 kPa and 150 kPa (1.0 psi and 21 psi) at 37.8 °C (100 °F) at a vapor-to-liquid ratio of 4:1.

II.2.5) Award criteria

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) Estimated value

Value excluding VAT: £24,000

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system

Start date

24 February 2022

End date

25 February 2022

This contract is subject to renewal

No

II.2.10) Information about variants

Variants will be accepted: No

II.2.11) Information about options

Options: No

II.2.14) Additional information

This procurement is related to a project and/or programme financed by European Union funds.

Identification of the project: European Regional Development Fund (ERDF)

Section III. Legal, economic, financial and technical information

III.1) Conditions for participation

III.1.2) Economic and financial standing

Selection criteria as stated in the procurement documents

III.1.3) Technical and professional ability

Selection criteria as stated in the procurement documents

Section IV. Procedure

IV.1) Description

IV.1.1) Type of procedure

Open procedure

IV.1.8) Information about the Government Procurement Agreement (GPA)

The procurement is covered by the Government Procurement Agreement: Yes

IV.2) Administrative information

IV.2.2) Time limit for receipt of tenders or requests to participate

Date

17 December 2021

Local time

12:00pm

IV.2.4) Languages in which tenders or requests to participate may be submitted

English

IV.2.6) Minimum time frame during which the tenderer must maintain the tender

Duration in months: 6 (from the date stated for receipt of tender)

IV.2.7) Conditions for opening of tenders

Date

17 December 2021

Local time

1:00pm

Place

The University of Sheffield

Section VI. Complementary information

VI.1) Information about recurrence

This is a recurrent procurement: No

VI.2) Information about electronic workflows

Electronic ordering will be used

Electronic invoicing will be accepted

Electronic payment will be used

VI.4) Procedures for review

VI.4.1) Review body

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