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Tender

## **3325/JN - Sustainable Aviation Fuels - Innovation Centre: Further Aviation Characterisation Laboratory Equipment (14 Lots)**

UNIVERSITY OF SHEFFIELD

F02: Contract notice

Notice identifier: 2022/S 000-016746

Procurement identifier (OCID): ocds-h6vhtk-03480f

Published 18 June 2022, 9:56pm

### **Section I: Contracting authority**

#### **I.1) Name and addresses**

UNIVERSITY OF SHEFFIELD

Western Bank

SHEFFIELD

S102TN

#### **Contact**

James Noble

#### **Email**

[james.noble@sheffield.ac.uk](mailto:james.noble@sheffield.ac.uk)

#### **Country**

United Kingdom

**NUTS code**

UKE32 - Sheffield

**Internet address(es)**

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

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## **Section II: Object**

### **II.1) Scope of the procurement**

#### **II.1.1) Title**

3325/JN - Sustainable Aviation Fuels - Innovation Centre: Further Aviation Characterisation Laboratory Equipment (14 Lots)

Reference number

3325/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. Further to our previous tender (3073/JN) we are looking to complement our research capability and 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: £435,000

#### **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**

Jet Fuel Thermal Oxidation Test (JFTOT) Device in conformity with ASTM D3241

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**

Thermal Stability is a critical aviation fuel test and while competition among equipment manufacturers/suppliers is to be encouraged, aircraft safety must remain paramount. Commonly measured by the pressure drop  $\Delta p$  across a filter in units of L and presented here in millimeters of mercury (mmHg), thermal stability measurements utilize specialized test equipment, the JFTOT, which exposes the fuel to a heated aluminum alloy tube in a controlled way and passes it through a filter to collect any particulates that have formed. After the test is complete, the pressure drop across the filter and a visual inspection of the aluminum tube for discoloration are used to evaluate thermal stability of fuel.

We are looking for a robust, reliable, durable, compact, and user friendly JFTOT device for the Sustainable Aviation Fuel/Innovation Centre characterisation lab.

### **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

1 November 2022

End date

2 November 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: European Regional Development Fund (ERDF)

## **II.2) Description**

### **II.2.1) Title**

Ellipsometer Tube Reader, in conformity with ASTM D3241, Annex 3

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**

We are looking for an automated Elipsometer Tube reader for Sustainable Aviation Fuel/Innovation Centre (SAF/IC) characterisation lab, in order to determine average deposit thickness and the complete deposit volume for the ultimate in heater tube deposition measurement as designated in ASTM D3241 Annex 3. The device should be fully automated, completely enclosed laser light source with an optical detection system for safety.

#### **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: £25,000

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

Start date

1 November 2022

End date

2 November 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: European Regional Development Fund (ERDF)

### **II.2) Description**

#### **II.2.1) Title**

Micro-Separometer, in conformity with ASTM D3948

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**

We are looking for an automated Micro-Separometer test device for Sustainable Aviation Fuel/Innovation Centre (SAF/IC) characterisation lab.

#### **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: £15,000

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

Start date

1 November 2022

End date

2 November 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: European Regional Development Fund (ERDF)

## **II.2) Description**

### **II.2.1) Title**

Copper Corrosion test device, in conformity with ASTM D130

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**

The Copper strip testing evaluates the relative degree of corrosivity of aviation fuels. We are looking for an automated copper corrosion test device for Sustainable Aviation Fuel/Innovation Centre (SAF/IC) characterisation lab.

#### **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: £115,000

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

Start date

1 November 2022

End date

2 November 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: European Regional Development Fund (ERDF)

## **II.2) Description**

### **II.2.1) Title**

A test device for quantification of gum in aviation fuel, in conformity with ASTM D381

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**

Gum like materials formed during fuel storage can deposit on various parts of aviation fuel system, causing detrimental effects on fuel supply to the aero-engine. We are looking for a controlled test device for quantification of gum for Aviation Fuel/Innovation Centre (SAF/IC) characterisation lab.

### **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

1 November 2022

End date

2 November 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: European Regional Development Fund (ERDF)

## **II.2) Description**

### **II.2.1) Title**

A test device for quantification of smoke point in aviation fuels, in conformity with ASTM D1322

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**

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.

The smoke point is quantitatively related to the potential radiant heat transfer from the combustion products of the fuel. Because radiant heat transfer exerts a strong influence on the metal temperature of combustor liners and other hot section parts of gas turbines, the smoke point provides a basis for correlation of fuel characteristics with the life of these components.

We are looking for a controlled test device for measurement of smoke point for Aviation Fuel/Innovation Centre (SAF/IC) characterisation lab.

### **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

1 November 2022

End date

2 November 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: European Regional Development Fund (ERDF)

## **II.2) Description**

### **II.2.1) Title**

A test device for quantification of mercaptane sulfur in aviation fuels, in conformity with ASTM D3227

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**

Mercaptan sulfur has an objectionable odor, an adverse effect on fuel system elastomers, and is corrosive to fuel system components.

We are looking for a controlled test device for quantification of mercaptan sulfur in aviation fuels for Aviation Fuel/Innovation Centre (SAF/IC) characterisation lab. Please note that organic sulfur compounds such as sulfides, disulfides, and thiophene, should not interfere in this test. In addition, elemental sulfur in amounts less than 0.0005 % by mass should not interfere in this test.

We are looking for a controlled test device for measurement of mercaptane sulfurs in Aviation for Fuel/Innovation Centre (SAF/IC) characterisation lab.

#### **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: £10,000

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

Start date

1 November 2022

End date

2 November 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: European Regional Development Fund (ERDF)

## **II.2) Description**

### **II.2.1) Title**

An Automated Test Device for Quantification of Aromatic Compounds, Using Fluorescent Indicator Absorption Apparatus, in Conformity with ASTM D1319

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**

This test method covers the determination of hydrocarbon types of total aromatics, total olefins, and total saturates in petroleum fractions that distill below 315 °C. Samples containing dark-colored components that interfere in reading the chromatographic bands cannot be analyzed. Typically, fuel is percolated through a column of silica gel containing special fluorescent dyes. When desorbed by alcohol, the fuel separates into three layers of hydrocarbon types that become visible under ultraviolet light. The hydrocarbon groups are olefins, aromatics and saturates (paraffins and naphthenes). The relative length of each band is translated into the volume percent of each hydrocarbon type.

### **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: £10,000

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

Start date

1 November 2022

End date

2 November 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: European Regional Development Fund (ERDF)

## **II.2) Description**

### **II.2.1) Title**

An Apparatus for Measuring Net Heat of Combustion of Aviation Fuels, in Conformity with ASTM D4809

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**

The net heat of combustion per unit weight is important to aircraft performance. Also, it is used to compare fuels by relative energy content that a kilogram of fuel could release through complete and perfect combustion. We are looking for a controlled test device for measurement of net heat of combustion for aviation fuels for our Fuel/Innovation Centre (SAF/IC) characterisation lab.

### **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: £40,000

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

Start date

1 November 2022

End date

2 November 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: European Regional Development Fund (ERDF)

## **II.2) Description**

### **II.2.1) Title**

An Automated Device for Determining Heat Capacity of Aviation Fuel, in Conformity with ASTM E1269

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**

We are looking for a controlled test device for measurement of determining Heat Capacity of Aviation Fuel for aviation fuels for our Fuel/Innovation Centre (SAF/IC) characterisation lab.

### **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: £35,000

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

Start date

1 November 2022

End date

2 November 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**

The procurement is related to a project and/or programme financed by European Union funds: European Regional Development Fund (ERDF)

## **II.2) Description**

### **II.2.1) Title**

A Test Device for Determining Dielectric Constant of Aviation Fuel, In Conformity with ASTM D924

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**

We are looking for a controlled test device for determining dielectric constant of aviation fuel for our Fuel/Innovation Centre (SAF/IC) characterisation lab.

### **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: £40,000

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

Start date

1 November 2022

End date

2 November 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**

The procurement is related to a project and/or programme financed by European Union funds: European Regional Development Fund (ERDF)

## **II.2) Description**

### **II.2.1) Title**

A Test Device for Flammability Limits of Aviation Fuels, in Conformity with ASTM E681

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**

We are looking for a controlled test device for determining flammability limits of aviation fuels for our Fuel/Innovation Centre (SAF/IC) characterisation lab.

### **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: £15,000

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

Start date

1 November 2022

End date

2 November 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**

The procurement is related to a project and/or programme financed by European Union funds: European Regional Development Fund (ERDF)

## **II.2) Description**

### **II.2.1) Title**

A Test Device for Autoignition Temperature of Aviation Fuels, in Conformity with ASTM E659

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**

We are looking for a controlled test device for determining autoignition temperature of aviation fuels for our Fuel/Innovation Centre (SAF/IC) characterisation lab.

### **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: £35,000

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

Start date

1 November 2022

End date

2 November 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**

The procurement is related to a project and/or programme financed by European Union funds: European Regional Development Fund (ERDF)

## **II.2) Description**

### **II.2.1) Title**

An automated Test Device for Determining Saybolt Color of Aviation Fuels, in conformity with ASTM D156

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**

We are looking for a controlled an automated test device for determining Saybolt Color for our Fuel/Innovation Centre (SAF/IC) characterisation lab.

### **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: £15,000

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

Start date

1 November 2022

End date

2 November 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**

The procurement is related to a project and/or programme financed by European Union funds: European Regional Development Fund (ERDF)

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## **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

29 July 2022

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: 3 (from the date stated for receipt of tender)

#### **IV.2.7) Conditions for opening of tenders**

Date

29 July 2022

Local time

12:01pm

## **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**

The University of Sheffield

Sheffield

S10 2TN

Email

[james.noble@sheffield.ac.uk](mailto:james.noble@sheffield.ac.uk)

Country

United Kingdom