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Planning

Materials Testing Framework for STEP - UKIFS

UK Industrial Fusion Solutions Ltd

UK3: Planned procurement notice - Procurement Act 2023 - [view information about notice types](#)

Notice identifier: 2025/S 000-029009

Procurement identifier (OCID): ocids-h6vhtk-052a46

Published 2 June 2025, 10:05am

Scope

Description

UKIFS STEP programme (Spherical Tokamak for Energy Production) seeks to establish a materials testing framework as follows:

1. Magnets materials testing – mechanical/ thermal, electrical, and REBCO tests under cryogenic conditions at a range of temperatures down to 20 K, for magnet materials (HTS tapes, metals, insulators (composites), solders), and mock-up samples of magnets and structures where applicable.

2. Vacuum Vessel & In-Vessel Systems (VIVS) manufacturing testing – mechanical, thermophysical and bespoke materials testing required to build a reliable material property database for increasing confidence in the system design into four key technologies: breeder blankets, divertors, plasma facing components and shields.

Two previous Requests for Information for this requirements were published with the following notices:

<https://www.find-tender.service.gov.uk/Notice/000564-2025>

<https://www.find-tender.service.gov.uk/Notice/002310-2025>

We are looking for suppliers who can provide a range of services (one of more tests) to join the framework that will be in operation over the next 6 years (2 years + 2 years + 2 years). Tender publication is planned for 24th June.

As part of the tender, bidders will be invited to attend a webinar explaining framework format and framework management principles.

To view this notice, please click here:

<https://www.delta-esourcing.com/delta/viewNotice.html?noticeId=954979795>

Total value (estimated)

- £7,000,000 excluding VAT
- £8,400,000 including VAT

Above the relevant threshold

Main procurement category

Services

Contract locations

- UK - United Kingdom

Lot constraints

Description of how multiple lots may be awarded:

It is planned to award up to three suppliers per lot. Suppliers can bid to be appointed to one of more lots and do not have to cover all tests in the lot(s) they bid for.

Not the same for all lots

CPV classifications and contract dates are shown in Lot sections, because they are not the same for all lots.

Lot Lot 1 Magnets Mechanical and Thermal tests. Lot 1 Magnets Mechanical and Thermal tests

Description

Tests included in the lots are as follows:

Mechanical Tests Tensile

Mechanical Tests Shear (at various angles)

Mechanical Tests Interlaminar shear

Mechanical Tests Combined compression-shear (at various angles)

Mechanical Tests Bond strength

Mechanical Tests Fatigue

Thermal Tests Thermal conductivity

Thermal Tests Coefficient of thermal expansion

Thermal Tests Thermal shock and thermal cycling

Thermal Tests Differential scanning calorimetry

Thermal Tests Specific heat

Please note the list is not exhaustive.

Lot value (estimated)

- £1,400,000 including VAT

Contract dates (estimated)

- 17 October 2025 to 17 October 2027
- Possible extension to 17 October 2031
- 6 years, 1 day

Description of possible extension:

Framework will be reopened for new entrants, with new tests included, after year 2 and year 4.

CPV classifications

- 31157000 - Inductors
- 38970000 - Research, testing and scientific technical simulator
- 71600000 - Technical testing, analysis and consultancy services
- 71610000 - Composition and purity testing and analysis services
- 71632000 - Technical testing services

Same for all lots

Contract locations are shown in the Scope section, because they are the same for all lots.

Lot Lot 2 Magnets Electrical Tests. Lot 2 Magnets Electrical Tests

Description

Tests included in the lots are as follows:

Electrical Tests Contact resistance

Electrical Tests Dielectric strength

Electrical Tests Insulation resistance

Electrical Tests Paschen breakdown

Please note the list is not exhaustive.

Lot value (estimated)

- £1,400,000 including VAT

Contract dates (estimated)

- 17 October 2025 to 17 October 2027
- Possible extension to 16 November 2031
- 6 years, 1 month

Description of possible extension:

The framework will be reopened for new entrants and new tests after year 2 and year 4.

CPV classifications

- 31157000 - Inductors
- 38970000 - Research, testing and scientific technical simulator
- 71600000 - Technical testing, analysis and consultancy services
- 71610000 - Composition and purity testing and analysis services
- 71632000 - Technical testing services

Same for all lots

Contract locations are shown in the Scope section, because they are the same for all lots.

Lot Lot 3 Magnets REBCO Characterisation Tests. Lot 3 Magnets REBCO Characterisation Tests

Description

The following tests will be included in this lot:

REBCO Coated Conductor Tests Critical current as a function of temperature, magnetic field strength and field angle

REBCO Coated Conductor Tests Critical current as a function of axial strain applied along the tape

REBCO Coated Conductor Tests Shear strength along and/or across the tape

REBCO Coated Conductor Tests Ultimate tensile strength perpendicular to tape plane

REBCO Coated Conductor Tests Minimum bend radius

REBCO Coated Conductor Tests Failure strength due to out-of-balance loads perpendicular to tape plane

REBCO Coated Conductor Tests Peel test

Please note the list is not exhaustive.

Lot value (estimated)

- £1,400,000 including VAT

Contract dates (estimated)

- 17 October 2025 to 17 October 2027
- Possible extension to 17 October 2031
- 6 years, 1 day

Description of possible extension:

The framework will be reopened for new entrants and new tests after year 2 and year 4.

CPV classifications

- 38970000 - Research, testing and scientific technical simulator
- 71600000 - Technical testing, analysis and consultancy services
- 71610000 - Composition and purity testing and analysis services
- 71630000 - Technical inspection and testing services

Same for all lots

Contract locations are shown in the Scope section, because they are the same for all lots.

Lot Lot 4 VIVS Mechanical Tests. Lot 4 VIVS Mechanical Tests

Description

The following tests are included in this lot:

Mechanical Tensile

Mechanical Tensile - notched

Mechanical Tensile - creep

Mechanical Creep-fatigue - cyclic uniaxial

Mechanical Microindentation

Mechanical Impulse excitation

Mechanical Shear (at various angles)

Mechanical 4-point bend

Mechanical 4-point bend - notched

Mechanical 4-point bend - notched

Mechanical Ball-on-3-ball

Mechanical Fracture toughness - compact tension

Mechanical Fracture toughness - impact

Mechanical Ratcheting - cyclic tension/torsion

Mechanical Fatigue crack growth - compact tension

Mechanical Fatigue - thermomechanical

Please note the list is not exhaustive.

Lot value (estimated)

- £1,400,000 including VAT

Contract dates (estimated)

- 17 October 2025 to 17 October 2027
- Possible extension to 17 October 2031
- 6 years, 1 day

Description of possible extension:

The framework will be reopened for new entrants and new tests after year 2 and year 4.

CPV classifications

- 38970000 - Research, testing and scientific technical simulator
- 71334000 - Mechanical and electrical engineering services
- 71600000 - Technical testing, analysis and consultancy services
- 71610000 - Composition and purity testing and analysis services

Same for all lots

Contract locations are shown in the Scope section, because they are the same for all lots.

Lot Lot 5 VIVS Thermophysical Tests. Lot 5 VIVS Thermophysical Tests

Description

The following tests are included in this lot:

ThermophysicalLaser flash

ThermophysicalDilatometry

ThermophysicalThermal shock and thermal cycling

ThermophysicalDifferential scanning calorimetry

ThermophysicalFatigue - thermal

Please note the list is not exhaustive.

Lot value (estimated)

- £1,400,000 including VAT

Contract dates (estimated)

- 17 October 2025 to 16 November 2027
- Possible extension to 16 November 2031
- 6 years, 1 month

Description of possible extension:

The framework will be reopened for new entrants and new tests after year 2 and year 4.

CPV classifications

- 38970000 - Research, testing and scientific technical simulator

- 71600000 - Technical testing, analysis and consultancy services
- 71610000 - Composition and purity testing and analysis services
- 71632000 - Technical testing services

Same for all lots

Contract locations are shown in the Scope section, because they are the same for all lots.

Lot Lot 6 VIVS Non-standard Tests. Lot 6 VIVS Non-standard Tests

Description

This lot will include CompositionMass spectrometry testing as well as any non-standard testing requirements.

Lot value (estimated)

- £1,400,000 including VAT

Contract dates (estimated)

- 17 October 2025 to 17 October 2027
- Possible extension to 16 November 2031
- 6 years, 1 month

Description of possible extension:

The framework will be reopened for new entrants and new tests after year 2 and year 4.

CPV classifications

- 38970000 - Research, testing and scientific technical simulator
- 71600000 - Technical testing, analysis and consultancy services
- 71610000 - Composition and purity testing and analysis services
- 71632000 - Technical testing services

Same for all lots

Contract locations are shown in the Scope section, because they are the same for all lots.

Participation

Particular suitability

Lot Lot 1 Magnets Mechanical and Thermal tests. Lot 1 Magnets Mechanical and Thermal tests

Lot Lot 2 Magnets Electrical Tests. Lot 2 Magnets Electrical Tests

Lot Lot 3 Magnets REBCO Characterisation Tests. Lot 3 Magnets REBCO Characterisation Tests

Lot Lot 4 VIVS Mechanical Tests. Lot 4 VIVS Mechanical Tests

Lot Lot 5 VIVS Thermophysical Tests. Lot 5 VIVS Thermophysical Tests

Lot Lot 6 VIVS Non-standard Tests. Lot 6 VIVS Non-standard Tests

- Small and medium-sized enterprises (SME)
- Voluntary, community and social enterprises (VCSE)

Submission

Publication date of tender notice (estimated)

25 June 2025

Enquiry deadline

15 July 2025, 1:00am

Tender submission deadline

29 July 2025, 3:00pm

Submission address and any special instructions

Compliant tenders must be submitted before the deadline through the tendering platform <https://www.delta-esourcing.com/>

Tenders may be submitted electronically

Yes

Languages that may be used for submission

English

Award decision date (estimated)

10 September 2025

Award criteria

Lot Lot 1 Magnets Mechanical and Thermal tests. Lot 1 Magnets Mechanical and Thermal tests

Lot Lot 2 Magnets Electrical Tests. Lot 2 Magnets Electrical Tests

Lot Lot 4 VIVS Mechanical Tests. Lot 4 VIVS Mechanical Tests

Lot Lot 5 VIVS Thermophysical Tests. Lot 5 VIVS Thermophysical Tests

Name	Type	Weighting
Criterion 2	Quality	70%
Criterion 1	Price	30%

Lot Lot 3 Magnets REBCO Characterisation Tests. Lot 3 Magnets REBCO Characterisation Tests

Lot Lot 6 VIVS Non-standard Tests. Lot 6 VIVS Non-standard Tests

Name	Type	Weighting
Criterion 2	Quality	80%
Criterion 1	Price	20%

Other information

Applicable trade agreements

- Government Procurement Agreement (GPA)
 - Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)
-

Procedure

Procedure type

Open procedure

Contracting authority

UK Industrial Fusion Solutions Ltd

- Public Procurement Organisation Number: PCRM-7973-DCBL

Culham Science Centre

Abingdon

OX14 3DB

United Kingdom

Telephone: +44 1235 464381

Email: operationalprocurement.step@ukifs.uk

Region: UKJ14 - Oxfordshire

Organisation type: Public authority - sub-central government