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Contract

SBRI Cycle 2 Phase 2 Further Competition

United Kingdom Atomic Energy Authority

F03: Contract award notice

Notice identifier: 2023/S 000-027558

Procurement identifier (OCID): ocds-h6vhtk-0401c9

Published 19 September 2023, 8:36am

Section I: Contracting authority

I.1) Name and addresses

United Kingdom Atomic Energy Authority

Culham Science Centre

Abingdon

OX14 3DB

Contact

Vincent Tsang

Email

vincent.tsang@ukaea.uk

Telephone

+44 1235466444

Country

United Kingdom

Region code

UKJ1 - Berkshire, Buckinghamshire and Oxfordshire

National registration number

N/A

Internet address(es)

Main address

<http://www.gov.uk/government/organisations/uk-atomic-energy-authority>

Buyer's address

<https://uk.eu-supply.com/ctm/Company/CompanyInformation/Index/72814>

I.4) Type of the contracting authority

Body governed by public law

I.5) Main activity

Other activity

Fusion Research

Section II: Object

II.1) Scope of the procurement

II.1.1) Title

SBRI Cycle 2 Phase 2 Further Competition

Reference number

T/CMK053/23

II.1.2) Main CPV code

- 73110000 - Research services

II.1.3) Type of contract

Services

II.1.4) Short description

This is a Small Business Research Initiative (SBRI) competition funded by the UK Atomic Energy Authority. The aim of the competition is to develop solutions to fusion energy challenges in two key priority areas. The competition has two themes. Theme 1: Driving up fusion power plant performance with innovative heating and cooling systems Theme 2: Improving fusion power plant availability with novel fusion materials, technology, and manufacture

This is also a Phase 2 Competition from the successful delivery of Phase 1.

II.1.6) Information about lots

This contract is divided into lots: Yes

II.1.7) Total value of the procurement (excluding VAT)

Value excluding VAT: £11,662,910.03

II.2) Description

II.2.1) Title

Driving up fusion power plant performance with innovative heating and cooling systems

Lot No

1

II.2.2) Additional CPV code(s)

- 73110000 - Research services

II.2.3) Place of performance

NUTS codes

- UKJ1 - Berkshire, Buckinghamshire and Oxfordshire

II.2.4) Description of the procurement

A Phase 2 Pre-Commercial Procurement under SBRI.

1. Driving up fusion power plant performance with innovative heating and cooling systems.

Projects can focus on one or more of the following under this theme:

Microwave heating challenges:

high power, long pulse microwave sources with high electrical efficiency (greater than or equal to 55%)

development of special waveguide components, for example, diamond window assemblies, power monitors, expansion units, vacuum pumping access

improvements on the high voltage power supplies (50kV) for reduced voltage ripple in a compact assembly while maintaining high electrical efficiency (greater than or equal to 98%)

development of optical mirrors for evacuation of high thermal loads (approximately 5MW/m²)

high precision optical alignment assemblies for the free space to waveguide coupling

Neutral particle beam heating challenges:

negative ion beam system with high electrical efficiency (greater than 60%)

improved beam neutralisation efficiency, for example, Plasma or Laser Neutralisers

development of residual ion energy recovery.

improved negative ion source efficiency with caesium free operation

reduction in scale; improved ion optics, source uniformity and power handling to reduce size of components

development of actively cooled high heat flux components (approximately 5-10 MW/m²) with reactor relevant materials

development of fault tolerant 1-2MV fast switching power supply systems with high electrical efficiency

development of vacuum pumping systems with pumping speeds of millions of litres per second which allow continuous operation

Reactor high heat flux components:

jet impingement cooling technology transfer

sCO₂ as coolant

diamond components for heat dispersion

novel discrete limiter designs, for example, vaporisation layers, speed of maintenance or increased heat flux performance

II.2.5) Award criteria

Quality criterion - Name: Themes and Proposed idea of technology / Weighting: 5

Quality criterion - Name: Technical project summary / Weighting: 20

Quality criterion - Name: Current State of the art and intellectual property / Weighting: 15

Quality criterion - Name: Project plan and methodology / Weighting: 15

Quality criterion - Name: Organisation and team expertise / Weighting: 15

Quality criterion - Name: Commercial potential / Weighting: 15

Cost criterion - Name: Cost and value for money / Weighting: 15

II.2.11) Information about options

Options: No

II.2.13) Information about European Union Funds

The procurement is related to a project and/or programme financed by European Union funds: No

II.2.14) Additional information

All applicants that received a total average score of 7 were invited to the second stage of the evaluation, which was an assessment centre, evaluated across four overarching topics, scored out of 5.

II.2) Description

II.2.1) Title

Improving fusion power plant availability with novel fusion materials, technology, and manufacture

Lot No

2

II.2.2) Additional CPV code(s)

- 73110000 - Research services

II.2.3) Place of performance

NUTS codes

- UKJ1 - Berkshire, Buckinghamshire and Oxfordshire

II.2.4) Description of the procurement

A Phase 2 Pre-Commercial Procurement under SBRI.

. Improving fusion power plant availability with novel fusion materials, technology, and manufacture

Projects can focus on one or more of the following under this theme:

fusion grade steels, for example, reduced activation Ferritic or Martensitic (RAFM) development, including, Castable Nanostructured Alloys (CNAs), and Oxide Dispersion

Strengthened (ODS) steels

liquid Metal testing, for example Li, PbLi and Pb

scalable or large volume manufacture of tritium breeder materials

irradiation resilient joining materials and processes, for example, Tungsten based armour materials, CuCrZr or vacuum vessel ports including fused silica, Mo, MgAl₂O₄, ZnS, ZnSe

novel manufacture of multi-metre complex structures and components for fusion environments testing and evaluation

scalable or large volume manufacture of neutron shielding materials

manufacture of complex geometry components in refractory metals

additive manufacture for non-water coolant components

anti-corrosion coatings or novel application methods of corrosion and tritium barrier coatings for complex geometry components

development of on-line activation measurements

in situ health monitoring of fusion reactor components

novel inspection of interfaces in complex multi-material fusion components

radiation hard improvements for fusion equipment and plant

novel energy conversion technology

high temperature superconductors

composite materials such as silicon carbide fibre, reinforced silicon carbide

novel materials for radiation hard electronic components

II.2.5) Award criteria

Quality criterion - Name: Themes and proposed idea of technology / Weighting: 5

Quality criterion - Name: Technical project summary / Weighting: 20

Quality criterion - Name: Current State of the art and intellectual property / Weighting: 15

Quality criterion - Name: Project plan and methodology / Weighting: 15

Quality criterion - Name: Organisation and team expertise / Weighting: 15

Quality criterion - Name: Commercial potential / Weighting: 15

Cost criterion - Name: Cost and value for money / Weighting: 15

II.2.11) Information about options

Options: No

II.2.13) Information about European Union Funds

The procurement is related to a project and/or programme financed by European Union funds: No

II.2.14) Additional information

All applicants that received a total average score of 7 were invited to the second stage of the evaluation, which was an assessment centre, evaluated across four overarching topics, scored out of 5.

Section IV. Procedure

IV.1) Description

IV.1.1) Type of procedure

Award of a contract without prior publication of a call for competition in the cases listed below

- The procurement falls outside the scope of application of the regulations

Explanation:

Pre-commercial Procurement. Not subject to Public Contract Regulation 2015.

<https://www.ukri.org/councils/innovate-uk/guidance-for-applicants/general-guidance/#contents-list>

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

The procurement is covered by the Government Procurement Agreement: Yes

Section V. Award of contract

Contract No

13761

Lot No

1

Title

FIP SBRI C2P2 - Coreflow

A contract/lot is awarded: Yes

V.2) Award of contract

V.2.1) Date of conclusion of the contract

18 August 2023

V.2.2) Information about tenders

Number of tenders received: 17

The contract has been awarded to a group of economic operators: No

V.2.3) Name and address of the contractor

TWI LIMITED

Bevan Braithwaite Building Granta Park

Great Abington

CB21 6AL

Country

United Kingdom

NUTS code

- UKH1 - East Anglia

National registration number

03859442

The contractor is an SME

No

V.2.4) Information on value of contract/lot (excluding VAT)

Total value of the contract/lot: £999,428.26

Section V. Award of contract

Contract No

13763

Lot No

1

Title

FIP SBRI C2P2 - Critical heat flux shifter and wall temperature reduction device

A contract/lot is awarded: Yes

V.2) Award of contract

V.2.1) Date of conclusion of the contract

18 August 2023

V.2.2) Information about tenders

Number of tenders received: 17

The contract has been awarded to a group of economic operators: No

V.2.3) Name and address of the contractor

CAL GAVIN LIMITED

Minerva Mill Innovation Centre, Station Road, Alcester

Warwickshire

B49 5ET

Country

United Kingdom

NUTS code

- UKG1 - Herefordshire, Worcestershire and Warwickshire

The contractor is an SME

No

V.2.4) Information on value of contract/lot (excluding VAT)

Total value of the contract/lot: £1,040,325.62

Section V. Award of contract

Contract No

13760

Lot No

2

Title

FIP SBRI C2P2 - TRONN

A contract/lot is awarded: Yes

V.2) Award of contract

V.2.1) Date of conclusion of the contract

18 August 2023

V.2.2) Information about tenders

Number of tenders received: 17

The contract has been awarded to a group of economic operators: No

V.2.3) Name and address of the contractor

Duality Quantum Photonics

Bourse, St Brandon's House, 29 Great George Street

Bristol

BS1 5QT

Country

United Kingdom

NUTS code

- UKK1 - Gloucestershire, Wiltshire and Bristol/Bath area

The contractor is an SME

Yes

V.2.4) Information on value of contract/lot (excluding VAT)

Total value of the contract/lot: £1,426,160.27

Section V. Award of contract

Contract No

13762

Lot No

2

Title

FIP SBRI C2P2 - RAMP-UP

A contract/lot is awarded: Yes

V.2) Award of contract

V.2.1) Date of conclusion of the contract

18 August 2023

V.2.2) Information about tenders

Number of tenders received: 17

The contract has been awarded to a group of economic operators: No

V.2.3) Name and address of the contractor

Alloyed Limited

Unit 15 Oxford Pioneer Park, Mead Road, Yarnton

Oxfordshire

OX5 1QU

Country

United Kingdom

NUTS code

- UKJ1 - Berkshire, Buckinghamshire and Oxfordshire

The contractor is an SME

No

V.2.4) Information on value of contract/lot (excluding VAT)

Total value of the contract/lot: £1,498,202.48

Section V. Award of contract

Contract No

13764

Lot No

2

Title

FIP SBRI C2P2 – Development of a prototype for remote in-service in situ health

monitoring of complex fusion supply pipe

A contract/lot is awarded: Yes

V.2) Award of contract

V.2.1) Date of conclusion of the contract

18 August 2023

V.2.2) Information about tenders

Number of tenders received: 17

The contract has been awarded to a group of economic operators: No

V.2.3) Name and address of the contractor

Full Matrix Ltd

27 Harcombe Road

Cambridge

CB1 9PD

Country

United Kingdom

NUTS code

- UKH12 - Cambridgeshire CC

The contractor is an SME

Yes

V.2.4) Information on value of contract/lot (excluding VAT)

Total value of the contract/lot: £534,939.20

Section V. Award of contract

Contract No

13765

Lot No

2

Title

FIP SBRI C2P2 – Liquid Lithium Test Facility

A contract/lot is awarded: Yes

V.2) Award of contract

V.2.1) Date of conclusion of the contract

18 August 2023

V.2.2) Information about tenders

Number of tenders received: 17

The contract has been awarded to a group of economic operators: No

V.2.3) Name and address of the contractor

Jacobs

Cottons Centre, Cottons Lane

London

SE1 2QG

Country

United Kingdom

NUTS code

- UKI - London

The contractor is an SME

No

V.2.4) Information on value of contract/lot (excluding VAT)

Total value of the contract/lot: £1,463,242.94

Section V. Award of contract

Contract No

13766

Lot No

2

Title

FIP SBRI C2P2 - Lithium Testing Facility by Oxford Sigma for Fusion

A contract/lot is awarded: Yes

V.2) Award of contract

V.2.1) Date of conclusion of the contract

18 August 2023

V.2.2) Information about tenders

Number of tenders received: 17

The contract has been awarded to a group of economic operators: No

V.2.3) Name and address of the contractor

Oxford Sigma

Harwell Innovation Centre, 173 Curie Avenue

Didcot

OX11 0QG

Country

United Kingdom

NUTS code

- UKJ1 - Berkshire, Buckinghamshire and Oxfordshire

The contractor is an SME

Yes

V.2.4) Information on value of contract/lot (excluding VAT)

Total value of the contract/lot: £1,499,704.82

Section V. Award of contract

Contract No

13767

Lot No

2

Title

FIP SBRI C2P2 - CSAM

A contract/lot is awarded: Yes

V.2) Award of contract

V.2.1) Date of conclusion of the contract

18 August 2023

V.2.2) Information about tenders

Number of tenders received: 17

The contract has been awarded to a group of economic operators: No

V.2.3) Name and address of the contractor

TWI Limited

Granta park, Great Abington

Cambridgeshire

CB21 6AL

Country

United Kingdom

NUTS code

- UKH12 - Cambridgeshire CC

The contractor is an SME

No

V.2.4) Information on value of contract/lot (excluding VAT)

Total value of the contract/lot: £808,542.40

Section V. Award of contract

Contract No

13768

Lot No

2

Title

FIP SBRI C2P2 - FATHOM2

A contract/lot is awarded: Yes

V.2) Award of contract

V.2.1) Date of conclusion of the contract

18 August 2023

V.2.2) Information about tenders

Number of tenders received: 17

The contract has been awarded to a group of economic operators: No

V.2.3) Name and address of the contractor

The University of Birmingham

Edgbaston

Birmingham

B15 2TT

Country

United Kingdom

NUTS code

- UKG31 - Birmingham

The contractor is an SME

No

V.2.4) Information on value of contract/lot (excluding VAT)

Total value of the contract/lot: £1,496,361.96

V.2.5) Information about subcontracting

The contract is likely to be subcontracted

Section V. Award of contract

Contract No

13769

Lot No

2

Title

FIP SBRI C2P2 - UHTEDS

A contract/lot is awarded: Yes

V.2) Award of contract

V.2.1) Date of conclusion of the contract

18 August 2023

V.2.2) Information about tenders

Number of tenders received: 17

The contract has been awarded to a group of economic operators: No

V.2.3) Name and address of the contractor

3-Sci

Innovation Centre, 4 Meteor way

Lee-on-the-Solent

PO13 9FU

Country

United Kingdom

NUTS code

- UKK41 - Plymouth

The contractor is an SME

Yes

V.2.4) Information on value of contract/lot (excluding VAT)

Total value of the contract/lot: £896,002.08

Section VI. Complementary information

VI.4) Procedures for review

VI.4.1) Review body

UK Atomic Energy Authority

Culham Science Centre

Abingdon

OX14 3DB

Country

United Kingdom

Internet address

<https://www.gov.uk/government/organisations/uk-atomic-energy-authority>

VI.4.2) Body responsible for mediation procedures

UK Atomic Energy Authority

Culham Science Centre

Abingdon

OX14 3DB

Country

United Kingdom

Internet address

<https://www.gov.uk/government/organisations/uk-atomic-energy-authority>

VI.4.3) Review procedure

Precise information on deadline(s) for review procedures

VI.4.2)Body responsible for mediation procedures

VI.4.3) Review procedure

Precise information on deadline(s) for review procedures:

The authority will incorporate a minimum 10 calendar day standstill period at the point information on the award of the contract is communicated to tenderers.

This period allows unsuccessful tenderers to seek further debriefing from the authority before a contract is entered into applicants have 2 working days from the notification of the award decision to request. Additional debriefing and that information have to be provided within a minimum of 3 working days before the expiry of the standstill period. Such additional information should be sought from the contact named in this notice.

If an appeal regarding the award of a contract has not been successfully resolved, the Public Contracts Regulations 2015 (SI 2015 No. 102) provide for aggrieved parties who have been harmed or are at risk of harm by a breach of the rules to take action in the High Court (England, Wales and Northern Ireland).

Any such action must be brought promptly.

(generally within 3 months).

VI.4.4) Service from which information about the review procedure may be obtained

UK Atomic Energy Authority

Culham Science Centre

Abingdon

OX14 3DB

Country

United Kingdom

Internet address

<https://www.gov.uk/government/organisations/uk-atomic-energy-authority>