Tender

Supply and Installation of an Environmental Thermal Mechanical Test System

UNIVERSITY OF BIRMINGHAM

F02: Contract notice
Notice identifier: 2022/S 000-006433
Procurement identifier (OCID): ocds-h6vhtk-031fbb
Published 9 March 2022, 11:49am

Section I: Contracting authority

I.1) Name and addresses

UNIVERSITY OF BIRMINGHAM

Chancellors Close

BIRMINGHAM

B152TT

Contact

Susanna Ting

Email

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Country

United Kingdom

NUTS code

UKG31 - Birmingham

Internet address(es)

Main address

www.birmingham.ac.uk/index.aspx

I.3) Communication

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

www.in-tendhost.com/universityofbirmingham

Additional information can be obtained from the above-mentioned address

Tenders or requests to participate must be submitted electronically via

www.in-tendhost.com/universityofbirmingham

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

Supply and Installation of an Environmental Thermal Mechanical Test System

Reference number

SC10029/22

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 Birmingham invites tenders for supply of an environmental thermal mechanical test system for in-situ irradiation. The University operates an MC40 Cyclotron and a neutron beam facility is currently being built. The MC40 Cyclotron can produce the proton beam energies in the range of 3~38 MeV.

To support the nuclear research in the UK, the University has been awarded a project by EPSRC to develop a system which will enable the mechanical testing of materials under vacuum (and potentially other environments), and with the capability of in-situ irradiation.

The proposed system will have a digital control system to deliver custom deformation waveforms and cooled grips for temperature control. The system will offer the capability of vacuum (and potentially other environments), high temperature, mechanical testing with in-situ irradiation capability and integrated with Birmingham irradiation facility. Ultimately the system will enable the evaluation of the thermal-mechanical properties at application-relevant temperature with simultaneous irradiation of a range of nuclear fission and fusion materials.

This project may be funded by the European Regional Development Fund (ERDF) or;

- European Structural and Investment Fund (ESIF) or;

- Research Councils UK (RCUK), the strategic partnership of the UK's seven Research Councils.

II.1.5) Estimated total value

Value excluding VAT: £300,000

II.1.6) Information about lots

This contract is divided into lots: No

II.2) Description

II.2.3) Place of performance

NUTS codes

- UKG31 - Birmingham

II.2.4) Description of the procurement

The University of Birmingham invites tenders for the supply of a thermal mechanical test system for in-situ irradiation. The University operates an MC40 Cyclotron and a neutron beam facility is currently being built. The MC40 Cyclotron can produce the proton beam energies in the range of 3~38 MeV. The proposed system will be integrated to the Cyclotron and/or the neutron beams for mechanical testing under elevated temperatures, with in-situ irradiation.

The system needs to be interface with the irradiation beams at the University of Birmingham. Thus, it is expected that the system should be mobile and/or adjustable in terms of the positioning.

The system shall be able to operate under different environmental conditions, such as air, vacuum or gaseous.

The system shall enable the testing of flat samples, but the capability of testing samples of other geometries (such as cylindrical) is highly desirable.

The system shall be able to accurately measure and control the temperate of the testing sample. The maximum testing sample temperature equal to, or greater than, 1200 oC is needed. The capability of testing at temperatures lower than the ambient temperature is a plus.

The system shall be able to accurately measure and control the displacement/strain on the testing sample. The capability of remote strain measurement such as digital image correlation is highly desirable.

The system shall be able to provide the maximum load of 5 kN or above. It is highly

desirable to have exchangeable load-cells with different maximum loads. The system shall have a digital control system to deliver custom deformation waveforms (e.g. static loading, creep, fatigue including TMF etc), as well as cooled (using liquid nitrogen/water) grips for temperature control (essential for samples subjected to high beam currents).

II.2.5) Award criteria

Quality criterion - Name: Compliance to the Specifications / Weighting: 40

Quality criterion - Name: After Sales and Technical back up / Weighting: 10

Quality criterion - Name: Delivery and Training / Weighting: 10

Quality criterion - Name: Sustainability and Environmental / Weighting: 5

Quality criterion - Name: Standard Supplier Questionnaire (SQ) / Weighting: 10

Price - Weighting: 25

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

End date

31 October 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

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

11 April 2022

Local time

11:59am

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

English

IV.2.7) Conditions for opening of tenders

Date

11 April 2022

Local time

12:00pm

Section VI. Complementary information

VI.1) Information about recurrence

This is a recurrent procurement: No

VI.4) Procedures for review

VI.4.1) Review body

The University of Birmingham

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Birmingham

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Country

United Kingdom