Planning

Fusion Futures: Development of a Gyrotron Cavity Test Rig

United Kingdom Atomic Energy Authority

F01: Prior information notice
Prior information only
Notice identifier: 2024/S 000-019347
Procurement identifier (OCID): ocds-h6vhtk-047243
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Section I: Contracting authority

I.1) Name and addresses

United Kingdom Atomic Energy Authority

Culham Campus

Abingdon

OX14 3DB

Contact

Charlotte Byrne

Email

charlotte.byrne@ukaea.uk

Country

United Kingdom

Region code

UKJ14 - 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.3) Communication

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

https://uk.eu-supply.com/app/rfq/rwlentrance_s.asp?PID=83017&B=UKAEA

Additional information can be obtained from the above-mentioned address

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

Fusion Futures: Development of a Gyrotron Cavity Test Rig

Reference number

T/RK089/24

II.1.2) Main CPV code

- 71320000 - Engineering design services

II.1.3) Type of contract

Services

II.1.4) Short description

The objective of this work package is to develop a test rig design for testing prototype gyrotron cavities simulating the: • Internal thermal load and associated cooling efficiency • Pressure forces • Vacuum compatibility

The test rig would include a thermal head that is inserted into prototype cavities to mimic the induced ohmic loads from the cavity electric field profile. The head could be designed for a specific gyrotron cavity, but the concept adaptable to cavities with diameters in the range of 30 to 50mm, and cavity length 20 to 30mm. Ideally, the thermal profile would be close to consistent with the E-field’s power deposition profile and capable of power densities exceeding 30MW/m2.

II.1.5) Estimated total value

Value excluding VAT: £100,000

II.1.6) Information about lots

This contract is divided into lots: No

II.2) Description

II.2.2) Additional CPV code(s)

- 79415200 - Design consultancy services
- 79930000 - Specialty design services

II.2.3) Place of performance

NUTS codes

- UKJ14 - Oxfordshire
- UK - United Kingdom

Main site or place of performance

OX14 3DB

II.2.4) Description of the procurement

The objective of this work package is to develop a test rig design for testing prototype gyrotron cavities simulating the: • Internal thermal load and associated cooling efficiency • Pressure forces • Vacuum compatibility

The test rig would include a thermal head that is inserted into prototype cavities to mimic the induced ohmic loads from the cavity electric field profile. The head could be designed for a specific gyrotron cavity, but the concept adaptable to cavities with diameters in the range of 30 to 50mm, and cavity length 20 to 30mm. Ideally, the thermal profile would be close to consistent with the E-field's power deposition profile and capable of power densities exceeding 30MW/m2.

The test rig should include simplified interfaces for easy replacement of the cavity, while ensuring safe testing conditions.

The estimated budget for this is between £80,000 and £100,000. This piece of work is required to be completed by March 2025, it is anticipated that this contract will be 8 months long.

II.3) Estimated date of publication of contract notice

5 August 2024

Section IV. Procedure

IV.1) Description

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

The procurement is covered by the Government Procurement Agreement: Yes