Planning

Flywheel Generator Convertors (FGC) Repurposing Project

United Kingdom Atomic Energy Authority

F04: Periodic indicative notice – utilities
Periodic indicative notice only
Notice identifier: 2023/S 000-028237
Procurement identifier (OCID): ocds-h6vhtk-040383
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Section I: Contracting entity

I.1) Name and addresses

United Kingdom Atomic Energy Authority

Culham Science Centre

Abingdon

OX14 3DB

Contact

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Email

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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

Additional information can be obtained from the above-mentioned address

I.6) Main activity

Other activity

Fusion Research & Development

Section II: Object

II.1) Scope of the procurement

II.1.1) Title

Flywheel Generator Convertors (FGC) Repurposing Project

Reference number

T/MJB/115/23

II.1.2) Main CPV code

- 51112000 - Installation services of electricity distribution and control equipment

II.1.3) Type of contract

Services

II.1.4) Short description

UKAEA is entering a multi-year decommissioning programme of the Joint European Torus (JET) experimental fusion machine at the end of 2023 under the JET Decommissioning and Repurposing Programme.

One of the key existing systems that have historically provided additional power to the Fusion machine will no longer be required for their primary purpose and an opportunity exists to repurpose the equipment for alternative use.

A preliminary feasibility study has identified that the Flywheel Generator Convertors (FGCs) could be repurposed to provide inertia as part of the National Grid Stability Services (ESO), it is expected that the flywheels could provide more than 5 GW.s of inertia. This PIN is to establish third party interest in this opportunity, said parties recognising the need for investment to upgrade & operate the JET flywheels for grid load balancing.

Please refer to attached document for further information and registration for the site visit.

II.1.6) Information about lots

This contract is divided into lots: No

II.2) Description

II.2.2) Additional CPV code(s)

- 09300000 - Electricity, heating, solar and nuclear energy
- 45315300 - Electricity supply installations
- 51000000 - Installation services (except software)
- 65300000 - Electricity distribution and related services
- 65400000 - Other sources of energy supplies and distribution

II.2.3) Place of performance

NUTS codes

- UKJ14 - Oxfordshire
- UK - United Kingdom

Main site or place of performance

Culham Science Centre

II.2.4) Description of the procurement

The United Kingdom Atomic Energy Authority (UKAEA) is entering a multi-year decommissioning programme of the Joint European Torus (JET) experimental fusion machine at the end of 2023 under the JET Decommissioning and Repurposing Programme. One of the key existing systems that have historically provided additional power to the Fusion machine will no longer be required for their primary purpose and an opportunity exists to repurpose the equipment for alternative use. A preliminary feasibility study has identified that the Flywheel Generator Convertors (FGCs) could be repurposed to provide inertia as part of the National Grid Stability Services (ESO).

The two Flywheel Generator Convertors (FGCs) can each supply 2600 MJ to their respective magnet load coils with a peak power of 410 MVA. Each flywheel generator is currently independently operated and used as energy storage for Joint European Torus (JET) pulses. They are driven by 8 MW pony motors with the flywheel output diode rectified for up to 400 MW DC output. A concept has been developed to connect the flywheel to the 400 kV transmission network via Culham’s existing connection.

Stability services are vital for the safe and secure operation of the electricity network, it is expected that the flywheels could provide more than 5 GW.s of inertia.

This Prior Information Notice (PIN) is to establish third party interest in this opportunity, said parties recognising the need for investment to upgrade and then operate the JET

flywheels for grid load balancing.

To enable interested parties to understand more about this opportunity please confirm if you would like to attend a site visit at the UKAEA Culham facility via the attached registration questionnaire.

This visit will allow interested parties to view the facility which houses the flywheel generators and meet technical and commercial representatives from UKAEA.

Please refer to attached document for further information and registration for the site visit.

II.3) Estimated date of publication of contract notice

30 June 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: No