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Planning

# **MARKET ENGAGEMENT TO UNDERSTAND SUPERCOOLED MAGNET INSULATOR TECHNOLOGIES**

United Kingdom Atomic Energy Authority (UKAEA)

F01: Prior information notice

Prior information only

Notice identifier: 2021/S 000-014510

Procurement identifier (OCID): ocds-h6vhtk-02c021

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## **Section I: Contracting authority**

### **I.1) Name and addresses**

United Kingdom Atomic Energy Authority (UKAEA)

Culham Science Centre

Abingdon

OX14 3DB

### **Contact**

Daniel Brown

### **Email**

[daniel.brown@ukaea.uk](mailto:daniel.brown@ukaea.uk)

### **Telephone**

+44 7546653628

## **Country**

United Kingdom

## **NUTS code**

UKJ1 - Berkshire, Buckinghamshire and Oxfordshire

## **National registration number**

United Kingdom Atomic Energy Authority (UKAEA)

## **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=38509&B=UK](https://uk.eu-supply.com/app/rfq/rwlentrance_s.asp?PID=38509&B=UK)

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

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## **Section II: Object**

### **II.1) Scope of the procurement**

#### **II.1.1) Title**

MARKET ENGAGEMENT TO UNDERSTAND SUPERCOOLED MAGNET INSULATOR TECHNOLOGIES

Reference number

T/DB103/21

#### **II.1.2) Main CPV code**

- 73300000 - Design and execution of research and development

#### **II.1.3) Type of contract**

Services

#### **II.1.4) Short description**

The aim of this project is to engage with the wider market to understand and test current available materials as magnet insulators that will be used in the toroidal, poloidal and correction coils, as well as the central solenoid - These materials must encapsulate the coils to protect and stabilise the magnets from the hostile environment e.g. irradiation

UKAEA will survey and assess organic potting compounds for application in a fusion environment. including, but not limited to: epoxy blends, benzoxazines and polyimides. Identify, survey and assess inorganic material e.g. geopolymers. Engagement with wider industry to understand the range of available COTS products developed in other industries which could be applicable to the requirement. Follow on work might include mechanical testing of these products to validate their suitability for nuclear environments.

#### **II.1.5) Estimated total value**

Value excluding VAT: £200,000

#### **II.1.6) Information about lots**

This contract is divided into lots: No

## **II.2) Description**

### **II.2.2) Additional CPV code(s)**

- 24300000 - Basic inorganic and organic chemicals
- 24500000 - Plastics in primary forms
- 73111000 - Research laboratory services
- 73300000 - Design and execution of research and development
- 31630000 - Magnets

### **II.2.3) Place of performance**

NUTS codes

- UKJ1 - Berkshire, Buckinghamshire and Oxfordshire

### **II.2.4) Description of the procurement**

Part of the STEP programme is the development of magnet insulators that will be used in the toroidal, poloidal and correction coils, as well as the central solenoid. These materials must encapsulate the coils to protect and stabilise the magnets from the hostile environment. This environment, particularly the high levels of neutron irradiation, present a significant materials challenge to select and validate potting compounds which avoid degradation in thermal, mechanical, and electromagnetic properties under these conditions. The aim of this project is to Engage with the wider market to understand and test current available materials which can be applied to the Requirements. UKAEA will survey and assess organic potting compounds for application in a fusion environment., including, but not limited to: epoxy blends, benzoxazines and polyimides, Identify, survey and assess inorganic material options, including, but not limited to, geopolymers. Engagement with wider industry to understand the range of available COTS products developed in other industries, such as aerospace, which could be applicable to the requirement. Follow on work might include mechanical testing of these products to validate their suitability for nuclear environments. Testing will be carried out by external suppliers, therefore engagement with wider industry to understand testing capability and standard testing procedures will also form a part of this project.

## **II.3) Estimated date of publication of contract notice**

22 October 2021

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## **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