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Planning

## **H3AT ISS**

United Kingdom Atomic Energy Authority

F01: Prior information notice

Prior information only

Notice identifier: 2021/S 000-006981

Procurement identifier (OCID): ocds-h6vhtk-02a2b6

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## **Section I: Contracting authority**

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

United Kingdom Atomic Energy Authority

Culham Science Centre

Abingdon

OX14 3DB

#### **Contact**

Abigail Woods

#### **Email**

[abigail.woods@ukaea.uk](mailto:abigail.woods@ukaea.uk)

#### **Country**

United Kingdom

#### **NUTS 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/rwlenrance\\_s.asp?PID=37407&B=UK](https://uk.eu-supply.com/app/rfq/rwlenrance_s.asp?PID=37407&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**

H3AT ISS

Reference number

T/AW049/21

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

- 51000000 - Installation services (except software)

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

Services

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

A Supplier will be required to undertake the Preliminary and Final Design phase of the ISS sub-system and potential equipment, and process trials prior to delivery to site at Culham Science Centre. The system will undergo a Factory Acceptance Test (FAT) prior to site delivery. Installation, a Site Acceptance Test (SAT) in conjunction with supplier, and integration into the H3AT Tritium Loop will be carried out by the Systems Integrator/Integrated Control System contractor(s). Anticipated system description The Isotope Separation System (ISS) separates a mixture of the six different Q2 (hydrogen) forms into streams containing predominantly H2 (protium), D2 (deuterium) and T2 (tritium) species. Cryo-distillation is the chosen technology. Cryodistillation exploits the small difference in volatility between the isotopes to achieve separation. The quantities of isotopologues of hydrogen – HD, HT and DT are reduced in the system using packed beds of catalyst, known as equilibrators.

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

This contract is divided into lots: No

## **II.2) Description**

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

- 42123300 - Compressors for refrigerating equipment
- 42510000 - Heat-exchange units, air-conditioning and refrigerating equipment, and filtering machinery
- 42511000 - Heat-exchange units and machinery for liquefying air or other gases
- 42511100 - Heat-exchange units
- 42511110 - Heat pumps
- 42511200 - Machinery for liquefying air or other gases

- 42910000 - Distilling, filtering or rectifying apparatus
- 51100000 - Installation services of electrical and mechanical equipment
- 51110000 - Installation services of electrical equipment
- 51112000 - Installation services of electricity distribution and control equipment
- 51112100 - Installation services of electricity distribution equipment
- 51112200 - Installation services of electricity control equipment
- 51120000 - Installation services of mechanical equipment
- 51230000 - Installation services of testing equipment
- 51430000 - Installation services of laboratory equipment
- 51500000 - Installation services of machinery and equipment
- 51510000 - Installation services of general-purpose machinery and equipment
- 51800000 - Installation services of metal containers
- 51810000 - Installation services of tanks
- 71300000 - Engineering services
- 71320000 - Engineering design services
- 71323000 - Engineering-design services for industrial process and production
- 71330000 - Miscellaneous engineering services
- 71333000 - Mechanical engineering services
- 71334000 - Mechanical and electrical engineering services
- 71335000 - Engineering studies
- 71336000 - Engineering support services
- 71340000 - Integrated engineering services
- 71350000 - Engineering-related scientific and technical services
- 73000000 - Research and development services and related consultancy services
- 73100000 - Research and experimental development services
- 73120000 - Experimental development services

- 73300000 - Design and execution of research and development
- 73430000 - Test and evaluation

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

NUTS codes

- UKJ14 - Oxfordshire

Main site or place of performance

Culham Science Centre

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

A Supplier will be required to undertake the Preliminary and Final Design phase of the ISS sub-system and potential equipment, and process trials prior to delivery to site at Culham Science Centre.

Upon completion of development trials, the system will undergo a Factory Acceptance Test (FAT) prior to site delivery. Installation, a Site Acceptance Test (SAT) in conjunction with supplier, and integration into the H3AT Tritium Loop will be carried out by the Systems Integrator/Integrated Control System contractor(s).

Anticipated system description

The Isotope Separation System (ISS) separates a mixture of the six different Q2 (hydrogen) forms into streams containing predominantly H2 (protium), D2 (deuterium) and T2 (tritium) species. Cryo-distillation is the chosen technology. Cryodistillation exploits the small difference in volatility between the isotopes to achieve separation. The quantities of isotopologues of hydrogen – HD, HT and DT are reduced in the system using packed beds of catalyst, known as equilibrators. These are located in the streams between the 4 cryodistillation columns and promote the formation of H2, D2 and T2.

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

15 July 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