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Planning

## **H3AT - Water Detritiation System**

United Kingdom Atomic Energy Authority

F01: Prior information notice

Prior information only

Notice identifier: 2024/S 000-016021

Procurement identifier (OCID): ocids-h6vhtk-04694a

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### **Section I: Contracting authority**

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

United Kingdom Atomic Energy Authority

Culham Campus

Abingdon

OX14 3DB

#### **Contact**

Nicola Adams

#### **Email**

[nicola.adams@ukaea.uk](mailto:nicola.adams@ukaea.uk)

#### **Telephone**

+44 1235465379

**Country**

United Kingdom

**Region code**

UKJ1 - Berkshire, Buckinghamshire and 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=81937&B=UKAEA](https://uk.eu-supply.com/app/rfq/rwlentrance_s.asp?PID=81937&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

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## **Section II: Object**

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

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

H3AT - Water Detritiation System

Reference number

T/AW137/22

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

- 38424000 - Measuring and control equipment

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

Supplies

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

The purpose of the WDS is to capture tritium from a larger volume of tritiated water into a small volume of hydrogen gas which is transferred to the Isotope Separation System for separation. Other hydrogen isotopes are discharged to atmosphere via the building stack after being sufficiently detritiated, while the oxygen released from the water is diverted to the ADS. This is done using a technology called Combined Electrolysis and Catalytic Exchange (CECE), which consists of electrolysis of tritiated water to produce tritium-containing hydrogen, then passing the released hydrogen through Liquid Phase Catalytic Exchange (LPCE) columns which promote isotopic exchange of the tritium with hydrogen in clean water.

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

This contract is divided into lots: No

### **II.2) Description**

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

- 09320000 - Steam, hot water and associated products
- 09343000 - Radioactive materials

- 31161400 - Primary water systems
- 38340000 - Instruments for measuring quantities
- 38420000 - Instruments for measuring flow, level and pressure of liquids and gases
- 38570000 - Regulating and controlling instruments and apparatus
- 38930000 - Humidity and moisture measuring instruments
- 42120000 - Pumps and compressors
- 42122100 - Pumps for liquids
- 42131100 - Valves defined by function
- 42131140 - Pressure-reducing, control, check or safety valves
- 45255400 - Fabrication work
- 45262670 - Metalworking
- 45262680 - Welding
- 45300000 - Building installation work
- 51100000 - Installation services of electrical and mechanical equipment
- 51110000 - Installation services of electrical equipment
- 51120000 - Installation services of mechanical equipment
- 51810000 - Installation services of tanks
- 51820000 - Installation services of reservoirs
- 71242000 - Project and design preparation, estimation of costs
- 71320000 - Engineering design services
- 71323200 - Plant engineering design services
- 71335000 - Engineering studies

- 71350000 - Engineering-related scientific and technical services

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

NUTS codes

- UKJ1 - Berkshire, Buckinghamshire and Oxfordshire

Main site or place of performance

Culham Campus Abingdon

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

The purpose of the WDS is to capture tritium from a larger volume of tritiated water into a small volume of hydrogen gas which is transferred to the Isotope Separation System for separation. Other hydrogen isotopes are discharged to atmosphere via the building stack after being sufficiently detritiated, while the oxygen released from the water is diverted to the ADS. This is done using a technology called Combined Electrolysis and Catalytic Exchange (CECE), which consists of electrolysis of tritiated water to produce tritium-containing hydrogen, then passing the released hydrogen through Liquid Phase Catalytic Exchange (LPCE) columns which promote isotopic exchange of the tritium with hydrogen in clean water.

The main functions of the WDS are:

- Receipt and interim storage of tritiated water produced by the H3AT tritium plant
- Recovery and concentration of tritium from tritiated water into hydrogen gas
- Discharge of tritium-enriched hydrogen gas to the ISS
- Receipt of low-tritium hydrogen gas from ISS
- Discharge detritiated hydrogen gas to stack
- Discharge of oxygen released from tritiated water to the ADS
- Transfer of tritiated water into or out of storage drums to allow for import or export of tritiated water

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

23 September 2024

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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