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Planning

Hydrogen generation system for semiconductor manufacture

UNIVERSITY OF SHEFFIELD

F01: Prior information notice

Prior information only

Notice identifier: 2021/S 000-020556

Procurement identifier (OCID): ocds-h6vhtk-02d7bb

Published 22 August 2021, 5:44pm

Section I: Contracting authority

I.1) Name and addresses

UNIVERSITY OF SHEFFIELD

Western Bank

SHEFFIELD

S102TN

Contact

David Middle

Email

dave.middle@sheffield.ac.uk

Telephone

+44 1142221560

Country

United Kingdom

NUTS code

UKE32 - Sheffield

Internet address(es)

Main address

<https://www.sheffield.ac.uk>

Buyer's address

<https://in-tendhost.co.uk/sheffield/aspx/Home>

I.3) Communication

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

Education

Section II: Object

II.1) Scope of the procurement

II.1.1) Title

Hydrogen generation system for semiconductor manufacture

Reference number

3060/PIN/DM

II.1.2) Main CPV code

- 39340000 - Gas network equipment

II.1.3) Type of contract

Supplies

II.1.4) Short description

The National Epitaxy Facility (NEF) at the University of Sheffield is a nationally important supplier of semiconductor materials for research and development in Universities and industry across the UK. A reliable supply of high purity hydrogen is key to the work of the NEF and our other research groups in semiconductor production.

Our existing PEM-based hydrogen generation system is approaching end of life and a replacement system is required. Our hydrogen supply operates at 30 bar and a peak mass flow rate of approximately 25kg per day, with an average daily consumption of 12kg per day.

Our hydrogen system feeds purifiers that ideally require 99.999% purity to minimise maintenance costs and ensure high purity feed to our reactors.

We are looking for a replacement hydrogen generator that can meet our existing demand in the existing footprint, with a reliable, sustainable and cost effective technology. Reliability of supply is a key factor, and hence an exemplary after sales service is a must.

II.1.5) Estimated total value

Value excluding VAT: £500,000

II.1.6) Information about lots

This contract is divided into lots: No

II.2) Description

II.2.2) Additional CPV code(s)

- 09120000 - Gaseous fuels
- 24100000 - Gases

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

The University of Sheffield

Department of Electronic and Electrical Engineering

Centre for Nanoscience and Technology

Broad Lane

Sheffield,

S3 7HQ.

II.2.4) Description of the procurement

A turnkey, fixed price solution is required for a hydrogen generation system that meets the following criteria.

The system operates within a built environment at an ambient temperature of 20°C, within a ventilated steel enclosure with a footprint of 3.6 x 4.8m, max height 2.8 m. If expansion is required the available space is 5.2 x 9 x 3.5m high.

Minimum 99.99% Hydrogen purity, 99.999% preferred.

20 micron maximum particle size, 10 micron preferred for purifier input. Post purifier purity for reactor input is 3 micron or less.

No sulphur or sulphur compounds.

Water Vapor

N₂

O₂

All other impurities undetectable

II.2.14) Additional information

Market Engagement: We welcome site visits from potential suppliers during the period 6th-24th September. Meetings and site visits must be arranged no later than 17th September.

Format: individual, non-confidential meetings, either face-to-face or virtual, or on-site to include a site survey.

Contact to arrange meetings:

Dr Steve Mason by email: steve.mason@sheffield.ac.uk or telephone 07834 722103.

Address for site visits:

Centre for Nanoscience and Technology, Broad Lane, Sheffield, S3 7HQ.

II.3) Estimated date of publication of contract notice

4 October 2021

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