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Planning

Coater requirements

CTM Portal for the NDA Shared Services Alliance

F01: Prior information notice
Prior information only
Notice identifier: 2022/S 000-000796
Procurement identifier (OCID): ocds-h6vhtk-0309b4
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Section I: Contracting authority

I.1) Name and addresses

CTM Portal for the NDA Shared Services Alliance

Calder Bridge

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CA20 1PG

Contact

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Country

United Kingdom

NUTS code

UKD4 - Lancashire

National registration number

01002607

Internet address(es)

Main address

https://www.gov.uk/government/case-studies/shared-services-alliance-ssa-for-nuclear-decommissioning-estate

Buyer's address

https://sharedsystems.eu-supply.com/ctm/Company/CompanyInformation/Index/3510

I.3) Communication

The procurement documents are available for unrestricted and full direct access, free of charge, at

https://sharedsystems.eu-supply.com/app/rfq/rwlentrance_s.asp?PID=15399&B=SELLAFIELD

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

Nuclear Decommissioning

Section II: Object

II.1) Scope of the procurement

II.1.1) Title

Coater requirements

Reference number

AFCP

II.1.2) Main CPV code

- 44000000 - Construction structures and materials; auxiliary products to construction (except electric apparatus)

II.1.3) Type of contract

Supplies

II.1.4) Short description

NNL are seeking to place a contract for the design of a fluidised bed chemical vapour deposition system. The equipment should have a coating chamber diameter of around 150mm and be capable of coating 1-2 kg of 0.5mm diameter kernels of uranium dioxide (UO2) in a single batch. Each coating will need to be deposited from different precursors sequentially while at its operating temperature, ranging from 1200-1600°C. The expected precursors for the different coating layers are acetylene, acetylene/propylene mixtures and methyltrichlorosilane diluted in hydrogen. An argon carrier gas is also required for fluidisation. Due consideration will need to be given to the scrubbing of exhaust gases and to the safe operation of the equipment using these reactive precursors on a nuclear licensed site.

II.1.5) Estimated total value

Value excluding VAT: £1,500,000

II.1.6) Information about lots

This contract is divided into lots: No

II.2) Description

II.2.2) Additional CPV code(s)

- 44000000 - Construction structures and materials; auxiliary products to construction (except electric apparatus)

II.2.3) Place of performance

NUTS codes

- UKD61 - Warrington
- UKD4 - Lancashire

Main site or place of performance

Preston site

II.2.4) Description of the procurement

NNL are interested in developing capabilities for the manufacture of fuels for the next generation of advanced modular reactors to contribute to the UK's target of reaching net zero carbon emissions by 2050. A promising candidate reactor technology are high temperature gas cooled reactors, which have high efficiencies, passive safety features and potential for co-generation of hydrogen. The fuels of these reactors are termed coated particle fuels and consist of spherical particles (approx. 0.5 mm diameter) coated in successive layers of porous carbon, pyrolytic carbon and silicon carbide. The coating process is traditionally carried out using fluidised bed chemical vapour deposition equipment, in which the particles are suspended within a fluidised bed while deposition of coating layers occurs by reaction of suitable precursors.

NNL are seeking to place a contract for the design of a fluidised bed chemical vapour deposition system. The equipment should have a coating chamber diameter of around 150mm and be capable of coating 1-2 kg of 0.5mm diameter kernels of uranium dioxide (UO_2) in a single batch. Each coating will need to be deposited from different precursors sequentially while at its operating temperature, ranging from 1200-1600°C. The expected precursors for the different coating layers are acetylene, acetylene/propylene mixtures and methyltrichlorosilane diluted in hydrogen. An argon carrier gas is also required for fluidisation. Due consideration will need to be given to the scrubbing of exhaust gases and to the safe operation of the equipment using these reactive precursors on a nuclear licensed site.

The system will need to conform to standards required for operation within a controlled area, with due consideration for handling of radioactive materials while loading and unloading the coater, contamination control and ease of maintenance.

To support the drafting of a future Invitation to Tender for the procurement of design, build and installation services for a fluidised bed chemical vapour deposition coater, NNL request interested parties to respond with a summary of their current, existing capabilities.

Respondents should also indicate if they would have the capability to build and deliver a system to the proposed design together with any prior experience of working on or supply equipment/services to nuclear licensed sites.

II.3) Estimated date of publication of contract notice

30 June 2022

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