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Planning

## **Nuclear Integrated Energy System demonstrator-facilitated exploration of UK options.**

United Kingdom National Nuclear Laboratory

F01: Prior information notice

Prior information only

Notice identifier: 2025/S 000-001287

Procurement identifier (OCID): ocds-h6vhtk-04d019

Published 15 January 2025, 9:16am

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

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

United Kingdom National Nuclear Laboratory

Chadwick House, Birchwood Park

Warrington

WA3 6AE

#### **Contact**

Charlotte Wilson

#### **Email**

[charlotte.wilson@uknnl.com](mailto:charlotte.wilson@uknnl.com)

#### **Telephone**

+44 1900517689

**Country**

United Kingdom

**Region code**

UKD61 - Warrington

**National registration number**

GB927282900

**Internet address(es)**

Main address

<https://www.nnl.co.uk/>

Buyer's address

<https://uk.eu-supply.com/ctm/Company/CompanyInformation/Index/124934>

**I.2) Information about joint procurement**

The contract is awarded by a central purchasing body

**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=89273&B=NNL](https://uk.eu-supply.com/app/rfq/rwlenrance_s.asp?PID=89273&B=NNL)

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

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## **Section II: Object**

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

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

Nuclear Integrated Energy System demonstrator- facilitated exploration of UK options.

Reference number

NNLC626

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

- 73200000 - Research and development consultancy services

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

Services

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

Please refer to the long description for full details of this requirement

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

Value excluding VAT: £100,000

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

This contract is divided into lots: No

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

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

- 09300000 - Electricity, heating, solar and nuclear energy
- 38970000 - Research, testing and scientific technical simulator
- 71313000 - Environmental engineering consultancy services
- 71314000 - Energy and related services
- 71314300 - Energy-efficiency consultancy services

- 72224000 - Project management consultancy services
- 73000000 - Research and development services and related consultancy services
- 73100000 - Research and experimental development services
- 73110000 - Research services
- 73111000 - Research laboratory services
- 73120000 - Experimental development services
- 73210000 - Research consultancy services
- 73220000 - Development consultancy services

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

NUTS codes

- UKD61 - Warrington

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

UKNNL is currently exploring the role that nuclear can play in an integrated energy system, beyond 'baseload electricity', such as hydrogen and alternative fuels, cogeneration, and industrial and district heat. However, our insight is currently limited by the lack of nuclear-coupled energy system demonstration and testing facilities. Modelling and analysis cannot develop much further without underpinning experimental data.

The purpose of this work is to explore and evaluate solutions to this problem, whether this is a new dedicated UKNNL facility, or collaboration with existing energy system facilities in academia or industry. Nuclear coupling could come from 'hardware' (links to real nuclear facilities) or 'software-in-the-loop', such as simulated nuclear steam that represents that from a real plant. It is believed this will help troubleshoot, improve and quantify the benefits of nuclear-coupling for a variety of technologies. In turn, this will allow us to better advise government on future decarbonisation strategies.

The consultant will deliver for UKNNL an outline of a business case for investment in this capability. This should include:

Strategic case: UKNNL's role in supporting the delivery of UK government policy of sustainable low carbon energy.

Economic case: The impact of UKNNL investment in creating public value including value for money, employment opportunities and social value.

Commercial case: Identification of customers and revenue generation opportunities from the investment. This should also consider if there are ways to deliver the same outcomes through the existing supply chain.

Financial case: Analysis of the level of investment required including impact on UKNNL's economic performance (initial NPV and IRR).

Management case: Assessment as to whether UKNNL is capable of delivering the project including whether we have the systems and processes in place to deliver the scope.

The work will involve working with internal experts in UKNNL from technical, S&T and commercial leads, reviewing our processes and procedures and reviewing the external policy landscape in which this concept will sit. UKNNL will supply its currently available data relevant to the assessment. The scope will exclude detailed planning of activities and commercial breakdown. The consultant will support financial assessment with financial modelling as appropriate in order to determine approximate cost figures for potential investment options.

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

3 March 2025

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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: No

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## **Section VI. Complementary information**

### **VI.3) Additional information**

Please confirm your interest in this opportunity no later than Wednesday 22nd January 2025 at 17:00hrs