This is a published notice on the Find a Tender service: https://www.find-tender.service.gov.uk/Notice/035907-2024

Tender

1NextGen Electrolysis - Blending Equipment

Wales & West Utilities Ltd

F05: Contract notice – utilities
Notice identifier: 2024/S 000-035907
Procurement identifier (OCID): ocds-h6vhtk-04b447
Published 6 November 2024, 12:26pm

Section I: Contracting entity

I.1) Name and addresses

Wales & West Utilities Ltd

Wales & West House, Spooner Close, Coedkernew

NEWPORT

NP10 8FZ

Email

nicci.birchall@wwutilities.co.uk

Country

United Kingdom

Region code

UK - United Kingdom

Companies House

05046791

Internet address(es)

Main address

https://www.wwutilities.co.uk/

I.3) Communication

Access to the procurement documents is restricted. Further information can be obtained at

https://sourcing4wwu.bravosolution.co.uk

Additional information can be obtained from the above-mentioned address

Tenders or requests to participate must be submitted electronically via

https://sourcing4wwu.bravosolution.co.uk

I.6) Main activity

Production, transport and distribution of gas and heat

Section II: Object

II.1) Scope of the procurement

II.1.1) Title

1NextGen Electrolysis - Blending Equipment

Reference number

WWU1440

II.1.2) Main CPV code

- 39340000 - Gas network equipment
  - KA06 - For the gas industry

II.1.3) Type of contract

Supplies

II.1.4) Short description

WWU require a supplier to design and install a hydrogen blending unit and associated equipment to blend up to a maximum of 20% hydrogen by volume into the customers' existing natural gas supply. The injection will take place downstream of the meter where the end use is combustion to provide heat to the customers existing process.

The customer process in non-interruptible and should the blend ratio go above the maximum allowable or if there is any failure of the hydrogen supply the blending infrastructure must be able to revert to 100% natural gas in order to maintain supply to the customer.

The blending infrastructure will need to be able to meet the requirements set out in the scope. These requirements are taken from the recently published FUNCTIONAL SPECIFICATION FOR HYDROGEN BLENDING INFRASTRUCTURE a copy of which can be found in Appendix 1 in the scope. WWU will own and operate the hydrogen blending unit and any associated equipment which will be located at the customers site in line with Model 2 in the functional blending spec.

II.1.6) Information about lots

This contract is divided into lots: Yes

Tenders may be submitted for one lot only

Maximum number of lots that may be awarded to one tenderer: 1

II.2) Description

II.2.1) Title

Lot 1 Equipment Supply only

Lot No

1

II.2.2) Additional CPV code(s)

- 31682210 - Instrumentation and control equipment
- 38420000 - Instruments for measuring flow, level and pressure of liquids and gases

- 38810000 - Industrial process control equipment
- 39341000 - Gas pressure equipment

II.2.3) Place of performance

NUTS codes

- UK - United Kingdom

Main site or place of performance

Wales & South West of England

II.2.4) Description of the procurement

Blending equipment

Natural gas inlet: Pressure: 75 mbar inlet, Temp: -5 to 40 C, Max consumption: Daily - 25384.11 kWh, Max consumption: ½ Hourly - 1191.88 kWh, Mean consumption: Daily - 20175.21 kWh, Mean consumption: ½ Hourly - 435.96 kWh

Hydrogen: Max H2 production: 45scmh (4.5kgH2/hr), Pressure: 2 to 7 bar from electrolyser but will be reduced to match the NG inlet, Temp: 60C from electrolyser but short run of pipe to blending tee so -5 to 60C

Blended outlet: Injection into existing 3" steel pipework at 75 mbar

The blending unit will be required to blend up to a maximum of 20% hydrogen by volume into the customers' existing natural gas supply. The injection will take place downstream of the meter where the end use is combustion to provide heat to the customers existing process. The customer process in non-interruptible and should the blend ratio go above the maximum allowable or if there is any failure of the hydrogen supply the blending infrastructure must be able to revert to 100% natural gas in order to maintain supply to the customer.

The blending infrastructure will need to be able to meet the requirements set out in the below Requirements section. These requirements are taken from the recently published FUNCTIONAL SPECIFICATION FOR HYDROGEN BLENDING INFRASTRUCTURE. WWU will own and operate the hydrogen blending unit and any associated equipment which will be located at the customers site in line with Model 2 in the functional blending spec.

FUNCTIONAL REQUIREMENTS

HYDROGEN PRESSURE REGULATION AND METERING Hydrogen pressure regulation and control is required to ensure there is sufficient pressure at the point of injection into the customers system. Pressure regulation and control shall be to IGEM/TD/13 and or IGEM/TD/23. Hydrogen volume and energy flowrate are required and the metering system shall be appropriate for hydrogen that is compliant with Table 5 of IGEM/H/1 and Table 2 of PAS 4444.

ACCURACY The hydrogen metering system should meet the accuracy requirements of Table 2 of the Functional Blending Specification in Appendix 1.

HYDROGEN/GCV CONTROL Hydrogen injection rate shall be controlled so as to achieve:

a minimum gross calorific value of gas at the comingled point

a hydrogen content of the blend that is no greater than a maximum of 20% by volume

a Wobbe index of the blend that is no less than the lower Wobbe limit permitted by Schedule 3 of the GSMR.GAS SAMPLING AND ANALYSIS

HYDROGEN SUPPLY Gas sampling and analysis shall continuously or continually monitor the hydrogen supplied to the hydrogen blending unit .

COMINGLED POINT Gas sampling and analysis shall continuously or continually monitor the blend at the comingled point and provide confirmation that it is compliant the minimum requirements agreed with WWU. A schedule of parameters that shall be monitored is given in Table 1 of the Functional Blending Specification.

Calorific value shall be determined using an instrument approved by Ofgem for determination of calorific values for the purposes of determining the reference point against which flow weighted average calorific value (FWACV) capping shall apply. The instrument shall comply with the requirements listed in an appropriate Letter of Approval from Ofgem.

ACCURACY The gas analysis system(s) shall meet the accuracy requirements of Table 3 of the Functional Blending Specification in Appendix 1.

REMOTELY OPERATED VALVE A Remotely Operated Valve (ROV) shall be supplied, which shall be capable of manual remote or automatic closure in the event of variation in blend outside of the agreed conditions or inability to provide sufficient blending where this is practiced. A more detailed description of trip and reset philosophy is given in the Gas Quality and Supervisory system functional block. The means of actuation of the ROV shall be the choice of WWU.

FWACV FUNCTIONALITY The system shall deliver the functionality required for the FWACV regime, namely requirements set out in the Gas (COTE) Regulations. Conditions currently specified include the following:

Acquisition and storage of gross CV of the supplied hydrogen from the approved CV determination device, together with a flag indicating its quality/suitability for use. For non-continual CV determination devices, the System - CV determination device interface shall be such that only one value of each CV determination is acquired.

Acquisition and storage of instantaneous volumetric flowrate of hydrogen at the time of acquisition of gross CV.

Initiation of daily calibration of CV determination device.

Automated tests of apparatus and equipment at periods not exceeding 35 days in accordance with Regulation 6(e) of the Gas (COTE) Regulations. The facility to manually initiate tests of apparatus and equipment either by, or at the request of, the Gas Examiner. Provision of a report of results of automated or manual tests in accordance with Regulation 6(e) of the Gas (COTE) Regulations.

Calculation of the daily average CV of the hydrogen at the end of each Gas Day in the manner specified by the Letter of Direction or by WWU depending on site specific conditions. This will require confirmation of the quality of individual records (records are Good if the CV determination device is operating within agreed limits) and averaging of only those records that are Good and for which gas is flowing past the sample point. In addition, a flag shall be stored indicating whether the resulting daily average CV is Valid (i.e., the maximum time between Good records is less than 8 hours). Gross CV values during calibration or tests of apparatus and equipment shall not be included for averaging.

Acquisition and storage of integrated daily volume at the end of the Gas Day.

In addition to local storage of individual data acquired, appropriate means of secure transfer of data to WWU

Any software and hardware solutions are acceptable provided they deliver the required FWACV functionality, but WWU will require demonstration that the required functionality has been delivered.

GAS QUALITY AND SUPERVISORY SYSTEM The Gas Quality and Supervisory system shall monitor hydrogen and blend quality signals from the hydrogen blending unit instrumentation, the remote monitoring unit instrumentation and the delivery facility instrumentation. Monitoring shall be continuous or continual and provide confirmation that the blend at the comingled point is compliant with the requirements set out by Table 1 of the functional blending specification.

In the event of an excursion in any of the parameters or any other parameters agreed by risk assessment (see 6.2 in the full blending specification document) the trip system shall initiate closure of the ROV on the hydrogen feed and prevent further injection of hydrogen into the customer process. The system should revert to a pure natural gas feed to ensure that customer operations are not interrupted.

The limit values in the parameters of Table 1 are indicative and site-specific values shall be agreed during design approval and may be subject to review if risk assessment confirms such a requirement (see 6.2 in the full blending specification document). All alarms and trips shall therefore be configurable.

If closure of the ROV has been initiated because of non-compliance with the parameters in Table 1 or any other parameters agreed by risk assessment (see 6.2 in the full blending specification document), then its subsequent opening shall be under the sole control of WWU.

DESIGN APPROVAL ASSETS OWNED BY WWU

Design approval for all assets owned by WWU shall be managed in accordance with IGEM/GL/5 and T/PM/GL/5.

TESTING ASSETS OWNED BY WWU

Pressure testing of all pressure containing components and systems shall be carried out in accordance with Management/Work Procedure PT/1 pertaining to WWU. Testing of electrical and instrument systems and equipment shall be carried out in accordance with BS 7671 and BS EN 60079-14.

COMMISSIONING AND INITIAL VALIDATION

GENERAL REQUIREMENTS

All personnel carrying out commissioning and initial validation shall be competent and adequately trained to do so.

A written commissioning procedure shall be agreed and shall take into account relevant Permit to Work procedures.

Initial validation shall be carried out in order to demonstrate the accuracy of the measurement system complies with the requirements of Table 2. Suitable systems, software or procedures shall be provided or agreed to ensure that compliance can be demonstrated.

ASSETS OWNED BY WWU

Following satisfactory commissioning, validation of the flow and gas quality measurement system shall be carried out in accordance with the relevant parts of T/PR/ME/2 or an alternative documented procedure if appropriate.

OPERATION

CONTROL AND MONITORING OF CALORIFIC VALUE

The requirements for control and monitoring of calorific value shall be agreed in the with WWU.

WWU shall at appropriate intervals calculate an appropriate target CV so as to minimise the risk of FWACV capping and communicate its value to the DFO and the hydrogen blending unit.

The hydrogen injection flowrate shall be controlled so as to ensure that instantaneous CV at the comingled point does not fall below the prevailing target CV, subject to:

hydrogen content of the gas at the comingled point shall not be greater than that permitted by WWU

Wobbe index of the gas at the comingled point shall not be less than that permitted by the WWU.

CONTROL AND MONITORING OF GAS QUALITY

Gas Quality of the gas at the comingled point shall be monitored so as to ensure compliance with the requirements set out by WWU. The frequency of monitoring shall be determined though measurement risk assessment.

The supplier will also need to consider :

• Carry out a full Hazid/Hazop for integration into the whole system.

• Identify the impact on the downstream process

• Any potential storage needed to require a consistent blend

Not required

• Odorant injection

II.2.5) Award criteria

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system

Start date

1 January 2025

This contract is subject to renewal

No

II.2.10) Information about variants

Variants will be accepted: Yes

II.2.11) Information about options

Options: Yes

Description of options

The contract term may be extended to accommodate delivery of the project.

II.2) Description

II.2.1) Title

Equipment Supply & Install Complete

Lot No

2

II.2.2) Additional CPV code(s)

- 45333100 - Gas regulation equipment installation work

II.2.3) Place of performance

NUTS codes

- UK - United Kingdom

Main site or place of performance

Wales & The South West of England

II.2.4) Description of the procurement

Connect electrolyser to inlet of blending equipment via designed pipework.

Connect existing natural gas pipework into blending equipment inlet.

Connect blending equipment outlet to the customers' existing gas service , downstream of the meter

Carry out all civils for the Hydrogen blending equipment and pipework.

Note : WWU reserve the right to carry out Work package 2 to inform future learnings of the gas networks activities.

II.2.5) Award criteria

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system

Start date

1 January 2025

This contract is subject to renewal

No

II.2.10) Information about variants

Variants will be accepted: Yes

II.2.11) Information about options

Options: Yes

Description of options

The contract term may be extended to accommodate the delivery of the project.

Section III. Legal, economic, financial and technical information

III.1) Conditions for participation

III.1.1) Suitability to pursue the professional activity, including requirements relating to enrolment on professional or trade registers

List and brief description of conditions

To be identified in the Invitation to Tender if required.

III.1.2) Economic and financial standing

Selection criteria as stated in the procurement documents

III.1.3) Technical and professional ability

Selection criteria as stated in the procurement documents

III.1.4) Objective rules and criteria for participation

List and brief description of rules and criteria

To be identified in the Invitation to Tender if required.

III.1.6) Deposits and guarantees required

To be identified in the Invitation to Tender if required.

III.1.7) Main financing conditions and payment arrangements and/or reference to the relevant provisions governing them

To be identified in the Invitation to Tender if required.

III.1.8) Legal form to be taken by the group of economic operators to whom the contract is to be awarded

In the event that Contractors form a joint venture, partnership or other form of consortia, joint and several liability of each participant will be required by the Contracting Entity.

III.2) Conditions related to the contract

III.2.3) Information about staff responsible for the performance of the contract

Obligation to indicate the names and professional qualifications of the staff assigned to performing the contract

Section IV. Procedure

IV.1) Description

IV.1.1) Type of procedure

Restricted procedure

IV.1.8) Information about the Government Procurement Agreement (GPA)

The procurement is covered by the Government Procurement Agreement: No

IV.2) Administrative information

IV.2.2) Time limit for receipt of tenders or requests to participate

Date

6 December 2024

Local time

12:00pm

IV.2.4) Languages in which tenders or requests to participate may be submitted

English

Section VI. Complementary information

VI.1) Information about recurrence

This is a recurrent procurement: No

VI.3) Additional information

Applicants must respond to this notice via e-mail and must be registered on WWU's BravoSolution platform to be invited to participate in future rounds of this sourcing event by the deadline of this notice.

If you are not registered or are registered but have not advised us of your registration we cannot add you to the sourcing project and you cannot participate in this sourcing project.

Please proceed to www.sourcing4wwu.bravosolution.co.uk and click on 'Register Now'.

If you have previously registered on

www.sourcing4wwu.bravosolution.co.uk please check

all the details are correct (do not re-register if you have done so previously).

Once you have registered/checked your details are correct please e-mail wwuprocurement@wwutilities.co.uk confirming your registration and expressing your interest to participate.

VI.4) Procedures for review

VI.4.1) Review body

Wales & West Utilities Limited

Newport

Country

United Kingdom