

## **Tender Instructions**

**Applicable to the European Public Tender for: a CO<sub>2</sub> Flow Loop unit**

**Contracting authority:**

The Netherlands Organisation for Applied Scientific Research TNO

Document ref. : 2023 FPL/INK 100  
Date : 12-10-2023

## Definitions

In this document, certain capitalized words have a specific restricted meaning, as given below. In the case of nouns, the specific meaning applies to both singular and plural forms. Terms which do not appear in this list but which are defined by legislation, notably the *Aanbestedingswet* (Procurement Act 2012, amended 2016) take the meaning intended by that legislation.

|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aanbestedingswet<br>(Dutch Procurement Act) | : the <i>Aanbestedingswet 2012</i> , effective 1 November 2012, as published in the Government Gazette 2012 no. 542; amended 1 July by Act of 22 June 2016 to amend Netherlands Procurement Act 2012 in connection with the implementation of European Directives 2014/23/EC, 2014/24/EC and 2014/25/EC; commonly referred to in English as the Procurement Act. May be abbreviated to 'AW'.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Appendices                                  | : Appendices to these Tender Instructions, viz. <ul style="list-style-type: none"> <li>• A01 to A06 – prescribed templates to be used when preparing and submitting the Tender (bid)</li> <li>• B01 to B04 – prescribed templates to be used for the provision of information by one or more Third Parties e.g. evidential documents to support the Self-Declaration</li> <li>• C01 to C05 – documents and supplementary information which form part of the Tender Instructions but are not intended for submission to any external party.</li> <li>• D01 to D13 – documents and supplementary information which form part of the Tender Instructions but are not intended for submission to any external party and will only be sent upon request due to the confidential nature of the document (see also paragraph 2.2.9).</li> </ul> |
| Award Criteria<br>(singular: criterion)     | : the criteria used by TNO to determine which Tenderer has filed the most economically advantageous tender. Further information on the Award criteria can be found in chapter 6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Award Decision                              | : the decision taken by TNO whereby the winning Tenderer is to be invited to enter into a Contract; alternatively, the decision not to award the Contract to any party.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Contracting authority                       | : The Netherlands Organisation for Applied Scientific Research (TNO).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Combination                                 | : an alliance of companies or legal entities who submit a joint tender as if acting as a single entity. Each member of the alliance is jointly and severally responsible and liable in law for the effective performance of the Contract, if awarded.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Contractor                                  | : the successful Tenderer to whom the Contract is awarded.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Contract                                    | : the legally binding agreement between TNO and the Contractor, effected further to the outcome of the Tender procedure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Eligibility Requirements                    | : the requirements imposed by TNO on all tendering parties not automatically excluded (under the Grounds for Exclusion), establishing minimum standards which must be met in order to be considered for the Contract.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Grounds for Exclusion                       | : reasons whereby a party is automatically deemed ineligible to take part in the Tender procedure. Depending on the contents of the tender documents and description, such reasons may relate to the (personal) circumstances of the Tenderer company, an officer of that company and/or a Third Party with a material involvement in the Tender and the proposed Contract. The Grounds Exclusion are explained in chapter 5.                                                                                                                                                                                                                                                                                                                                                                                                            |
| Minimum Requirements                        | : the minimum requirements imposed by TNO with regard to the provision of supplies, services or works, i.e. the manner in which the Contractor is to perform the activities specified by the Contract.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

|                           |                                                                                                                                                                                                                                                                                            |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Memorandum of Information | : a document providing further information about the Tender procedure and/or the tender documents, compiled by TNO in response to queries it has received from Tenderers. (The queries are anonymized in the interests of confidentiality.)                                                |
| Tender                    | : the bid submitted by the Tenderer.                                                                                                                                                                                                                                                       |
| Tender Instructions       | : the current document in which the Tender procedure is described.                                                                                                                                                                                                                         |
| Tender Procedure          | : the European tendering procedure through which a Contract is to be awarded.                                                                                                                                                                                                              |
| Third Party               | : any natural person or legal entity upon whom a market party (the Tenderer) can call to meet the requirements of financial and economic capacity and/or technical and professional competence, regardless of the nature of the relationship between the market party and the Third Party. |

## Contents

|          |                                                                                                  |           |
|----------|--------------------------------------------------------------------------------------------------|-----------|
| <b>1</b> | <b>Contracting authority and proposed contract.....</b>                                          | <b>4</b>  |
| 1.1      | General .....                                                                                    | 4         |
| 1.2      | TNO .....                                                                                        | 4         |
| 1.3      | Organisational structure.....                                                                    | 4         |
| 1.4      | Contract description .....                                                                       | 5         |
| 1.5      | Social responsible procurement .....                                                             | 6         |
| <b>2</b> | <b>The Tender Procedure.....</b>                                                                 | <b>7</b>  |
| 2.1      | Schedule.....                                                                                    | 7         |
| 2.2      | Tender conditions.....                                                                           | 7         |
| 2.3      | Further information (questions) .....                                                            | 10        |
| 2.4      | Disputes and applicable jurisdiction .....                                                       | 11        |
| 2.5      | Submission of the Tender.....                                                                    | 11        |
| <b>3</b> | <b>Evaluation of Tender and Tenderers .....</b>                                                  | <b>13</b> |
| 3.1      | Evaluation team.....                                                                             | 13        |
| 3.2      | Evaluation procedure.....                                                                        | 13        |
| <b>4</b> | <b>Evaluation of timely submission, form, presentation and completeness .....</b>                | <b>14</b> |
| 4.1      | Timely submission.....                                                                           | 14        |
| 4.2      | Form, presentation and completeness.....                                                         | 14        |
| <b>5</b> | <b>Evaluation against Grounds for Exclusion and Eligibility Requirements .....</b>               | <b>15</b> |
| 5.1      | Grounds for Exclusion.....                                                                       | 15        |
| 5.2      | Evaluation of Eligibility Requirements .....                                                     | 16        |
| <b>6</b> | <b>Evaluation against Award Criteria.....</b>                                                    | <b>18</b> |
| 6.1      | Best Price-Quality Ratio .....                                                                   | 18        |
| 6.2      | Contract Award.....                                                                              | 20        |
| <b>7</b> | <b>Evaluation of evidential documents and other documents .....</b>                              | <b>21</b> |
| 7.1      | Submission of evidential documents and other documents .....                                     | 21        |
| 7.2      | Suspensory conditions .....                                                                      | 21        |
| 7.3      | Contract signing.....                                                                            | 21        |
| <b>8</b> | <b>Minimum requirements with regard to Contract performance (Programme of Requirements).....</b> | <b>22</b> |
| 8.1      | Programme of Requirements of the CO <sub>2</sub> Flow Loop .....                                 | 22        |
| <b>9</b> | <b>Appendices .....</b>                                                                          | <b>30</b> |

# 1 Contracting authority and proposed contract

## 1.1 General

TNO wishes by means of this European Public tender procedure to select a market participant (to be referred to below as the 'Tenderer') to supply a CO<sub>2</sub> Flow Loop. TNO has chosen to use a European Public tendering procedure for this purpose.

These tender instructions provide invited parties with insight into the present open multiple limited tendering procedure, the requirements and wishes with which their tender must comply, and how additional information can be obtained.

This Section 1 gives a brief description of TNO and of its organisation. It also sets out TNO's objective for the multiple limited tendering procedure and gives a brief summary of the present and envisaged situation for TNO. Tenderer is requested to confirm receipt of this invitation to tender by return of e-mail and is also requested to inform TNO as soon as possible by email whether he intends to submit a tender.

## 1.2 TNO

The Netherlands Organisation for Applied Scientific Research, hereafter 'TNO', is a modern, theme-led Research & Knowledge organisation. It was established in 1930 by Act of Parliament with the intention of maximising the practical relevance of scientific research to the public sector, industry and society at large. The government of the day believed that this would enhance the innovative strength of the Netherlands and contribute to long-term economic growth.

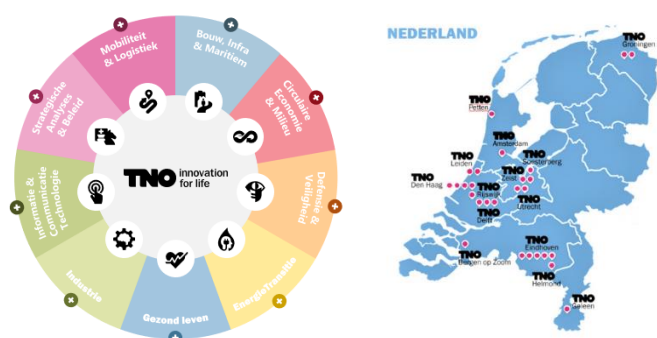
TNO is a national institution acting in the general interest and, for the purposes of European policy and legislation, is therefore a 'body governed by public law.' Although it operates under the formal responsibility of the Minister for Economic Affairs, TNO enjoys complete independence and autonomy in its day-to-day activities.

The organisation has approximately 3,400 staff who work to develop and apply innovative knowledge. TNO conducts contract research on behalf of clients in all sectors, provides specialist advice and consultancy, and licenses the use of its many patents and the specialist software it has developed. TNO also tests and certifies products and services, issuing an independent quality assessment. The organisation has spawned numerous commercial spin-offs to bring its innovations to market.

One of TNO's key strengths is that it brings various scientific disciplines together under one roof. Those disciplines combine and interact to create ground breaking and sustainable new solutions. Increasingly, TNO seeks collaboration with partners in government and industry, working alongside knowledge institutions and societal organisations at home and abroad. Through its varied activities, TNO stimulates economic growth and social renewal. The organisation's mission statement (as phrased in its 2015-2018 Strategic Plan) reads, "TNO connects people and knowledge to create innovations that boost the competitive strength of industry and the well-being of society in a sustainable way." Its objectives are encapsulated in the motto, "TNO, Innovation for Life". For further information, see: [www.TNO.nl](http://www.TNO.nl).

## 1.3 Organisational structure

TNO's high level of ambition demands an appropriate organisational structure and corporate culture. Staff must be given every support as they pursue innovation and productive cooperation. The current organisational unit structure is shown below:



All units are concerned with matters that are prominent on the national- and European innovation agenda. The themes form the focus of the organisation's nine units, each of which is responsible for acquiring and

performing contract research relevant to its specific theme and innovation areas. Staff of the various divisions and expertise areas are based at 23 regional offices located throughout the Netherlands. The organisation's head office is in The Hague, where the central support departments ('Shared Services Organisation') are based.

#### *Procurement*

As part of the Finance, Procurement & Legal (FPL) division, the Procurement Department is responsible for organising and implementing all procurement processes in keeping with the corporate objectives of the organisation. In that role the Procurement Department oversees all purchasing, procurement and tendering procedures on behalf of TNO, in this case doing so in close cooperation with our Departments Heat Transfer & Fluid Dynamics (HTFD) and Sustainable Technologies for Industrial Processes (STIP).

### **1.4 Contract description**

The purpose of the current Tender Procedure is to select one (1) Contractor to supply a CO<sub>2</sub> Flow Loop. The supply and the manner in which it is supplied must comply with the specifications and criteria given in the Tender documents, and notably the Programme of Requirements (see Chapter 8). There may be a combination of 'hard' and 'soft' requirements. The former are mandatory and must be met. The latter are in the nature of 'preferences' which should be taken into consideration to the greatest extent possible.

#### **1.4.1 Contract duration**

The Contract will be a one off Purchase Order for the delivery of the aforementioned CO<sub>2</sub> Flow Loop unit. TNO will make all reasonable efforts to allow the Contract to come into effect on the date mentioned in the Schedule of Paragraph 2.1.

#### **1.4.2 Scope and content of the Contract**

TNO is developing an experimental installation with which the behaviour of CO<sub>2</sub> can be studied at various conditions along the phase boundary. This installation consists of a CO<sub>2</sub> conditioning system, a measurement section referred to as the "System Under Test", the CO<sub>2</sub> filling system, a 10 ft container and supporting structures. The installation will be denoted as CO<sub>2</sub> Flow Loop unit throughout this document. The 10 ft container will be denoted as Control container throughout this document. The scope of the CO<sub>2</sub> Flow Loop unit includes:

- A CO<sub>2</sub> conditioning system, containing as main components
  - o A separation vessel,
  - o A gas-feed line towards gas compressor,
  - o A gas-return line,
  - o A gas-product line towards System Under Test,
  - o A liquid-feed line towards pump,
  - o A liquid-return line,
  - o A liquid-product line towards System Under Test,
  - o Buffer vessel and depressurization line,
  - o Two safety relief lines,
  - o Valving and piping to encompass the feed, return and product lines between the separation vessel and the System Under Test.
  - o Valving and piping to encompass the feed, return and product lines between the separation vessel and the System under Test.
- The CO<sub>2</sub> filling system, containing as main components
  - o Dedicated pump for delivering pressurized CO<sub>2</sub> during filling operations,
  - o Gas-feed line from gas supply to pump,
  - o Gas-product line from pump to separation vessel,
  - o Mass flow controllers,
  - o Valving and piping to encompass the lines between the gas supply and separation vessel,
  - o Provisions for future connections from gas storage facilities for other gases.
- A System Under Test, containing as main components
  - o Piping to encompass the line between the outlet of the CO<sub>2</sub> conditioning system and the connection towards the separation vessel,
  - o Provisions to connect instrumentation.
  - o The scope of work includes two separate System Under Test designs.
- A Control container, containing as main components:
  - o Electronic cabinet(s) containing the MCC/PLC and RIO panels
- frames, stairs, railings, platforms and support arrangements to piping, valves, equipment.

The main process equipment except connecting elements such pipework, flanges, nuts and bolts has been purchased by TNO. Therefore TNO seeks suppliers as described in the Programme of Requirements, notably Paragraph 8.1.

The scope of the contract includes the detail engineering (mechanical and electrotechnical) of the CO<sub>2</sub> Flow Loop unit, the manufacturing, construction, assembly and installation of the CO<sub>2</sub> Flow Loop unit at the TNO office at Rijswijk, The Netherlands. Contractor is responsible for the quality of the installation. TNO is responsible for the operational performance of the installation.

#### **1.4.3 Out-of-scope**

- 1) The cooling skid including all (process) heat exchangers are out of scope. The skid will be delivered and installed on TNO premises by a third party.
- 2) A 10 ft container intended for storage purposes of materials. This container will be purchased and delivered by TNO.
- 3) TNO will perform automation engineering (control software, visualization, trending, logging), and will provide Contractor with:
  - Cause & effect diagram,
  - Signal list for safety of the installation (hard-wired or PLC),
  - PLC components (hardware, Beckhoff) and PID controllers (Eurotherm) including signal list and position on the PLC hardware.
- 4) The walking areas include all stairs, platforms, and the ground-level between the Sierra building (visible on the left hand side of the 3D model), the concrete wall behind the CO<sub>2</sub> Flow Loop unit and the Control container.

#### **1.4.4 Lots**

This Tender consists of one Lot.

#### **1.5 Social responsible procurement**

Sustainability is an extremely important aspect of TNO's core business. Much of our research is concerned with managing the economic, environmental and social impact of developments within our adopted themes. We do so using the 'roadmap' approach. In addition, we devote very close attention to the manner in which we can minimise the negative impact – and ideally maximise the positive impact – of our own operations.

We therefore attach great importance to social and environmental responsibility: People and Planet. We acknowledge that our staff are essential to our mission. The core values of TNO – integrity, independence, professionalism and social responsibility – underpin the organisation's strategy and all its activities.

In terms of environmental responsibility, our policy centres on the spearheads of energy efficiency, reducing the carbon footprint of business travel, and sustainable procurement practice. Further information can be found in the TNO Sustainability Report which forms part of the TNO Annual Report.

Socially responsible procurement practice is therefore an intrinsic part of the procurement agenda. All procurement decisions are taken in consultation with the TNO budget holders and involve careful consideration of sustainability aspects. Where relevant and possible, the sustainability aspects will be translated into sustainability requirements and/or preferences which will be included in the Tender Instructions document.

## 2 The Tender Procedure

The Tender Procedure is conducted in full compliance with the conditions of the Dutch *Aanbestedingswet* (Procurement Act), which in turn is based on relevant European legislation.

Considering the estimated value of the contract and complexity of its topic, TNO has opted for the 'Private (multiple limited) tendering procedure'.

### 2.1 Schedule

The proposed schedule for the Tender Procedure is as follows:

| No. | Action                                                                | Deadline                       |
|-----|-----------------------------------------------------------------------|--------------------------------|
| 1.  | Publication of Call for Tenders (on TenderNed.nl)                     | 12 October 2023                |
| 2.  | Final opportunity for interested parties to submit questions          | 9 November 2023, 13.30hrs.     |
| 3.  | Publication of (final) Memorandum of Information                      | 30 November 2023               |
| 4.  | Final date for request for documents (Appendices D1-D13)              | 20 December 2023, 13.30hrs.    |
| 5.  | Final date (and time) for submission of Tenders                       | 21 December 2023, 13.30hrs.    |
| 6.  | Announcement of Intention to Award                                    | 1 February 2023                |
| 7.  | Final date for submission evidential documents by intended Contractor | 8 February 2024                |
| 8.  | Final date for lodging an objection                                   | 21 February 2024               |
| 9.  | Confirmation of Contract Award                                        | Shortly after 21 February 2024 |

Dates are indicative. TNO reserves the right to amend the schedule.

The Tender must be prepared in conformity with the following tendering conditions.

### 2.2 Tender conditions

#### 2.2.1 Acceptance

The submission of a tender is confirmation that the Tenderer accepts all applicable conditions.

#### 2.2.2 Formats

The Tenderer must use the templates and prescribed formats provided in the Appendices to the Tender Instructions. It is expressly forbidden to make any alteration to these templates without the prior consent of TNO.

#### 2.2.3 Order of precedence

Where any discrepancies between the contents of the various tender documents exists, the following order of precedence applies (in descending order of importance).

- Memoranda of Information, most recent first
- Tender Instructions and Appendices
- Call for Tenders.

#### 2.2.4 Contact person and communication

All communication (including Legal) with respect to the Tender Procedure will only take place through TNO's contact point below. The communication must always be done in writing via the e-mail address mentioned.

|                |   |                                                             |
|----------------|---|-------------------------------------------------------------|
| Name           | : | Raymond Peddemors                                           |
| Position       | : | Category Manager                                            |
| Department     | : | Procurement                                                 |
| Correspondence | : | P.O. Box 96800, 2509 JE, The Hague                          |
| Visitors       | : | Anna van Buerenplein 1, 2595 DA, The Hague, The Netherlands |
| Email          | : | <b>raymond.peddemors@tno.nl</b>                             |

Tenderers cannot derive rights from verbal statements, promises and suggestions from TNO employees or agents, made in connection with the Tender Procedure and / or tender documents. Tenderers can only rely on written information provided by or on behalf of TNO.

Failure to comply with the above conditions, or any attempt to influence the judgement or decisions of any person involved in the Tender procedure, will result in immediate disqualification.

#### **2.2.5 Language**

Tenders must be submitted either in the English language. Tenders submitted in other languages than the English language will be excluded from further participation in this Tender procedure. Evidential documents which cannot be submitted in the English language, should be submitted in the original language but the Tenderer should be able to provide a (sworn) translation on request.

#### **2.2.6 Alternative Tenders**

The submission of alternative Tenders is not permitted. Alternative Tenders will be disregarded.

#### **2.2.7 ‘... or equivalent’**

Where the Tender documents, including Appendices, refer to any specific brand name, patent, type, model, manufacturing process, etc., the words ‘... or equivalent’ should be understood to follow.

#### **2.2.8 Reserved rights**

1. TNO may, at its own discretion and without having to state reasons, decide not to award the Contract to any of the parties from whom Tenders have been received. Tenderers are not entitled to compensation for any form of loss or damage directly or indirectly incurred as a result.
2. TNO reserves the right to suspend or cancel the entire Tender Procedure. Tenderers are not entitled to compensation for any form of loss or damage directly or indirectly incurred as a result.
3. TNO reserves the right to subject all information provided by Tenderers to further scrutiny for the purposes of verification. Referees may be contacted without further notice.  
The Tenderer is aware that the provision of false or incomplete information will result in disqualification from the Tender Procedure. Any agreements made prior to the discovery of the false or incomplete information will be revoked and contracts will be annulled. No compensation will be paid. TNO expressly disclaims liability for loss or damage howsoever caused.

#### **2.2.9 Confidentiality**

The Tenderer undertakes to treat all information which may affect the commercial interests or scientific integrity of TNO in the strictest confidence. Information is provided on a ‘need to know’ basis and must not be disclosed to any employee or agent of the Tenderer’s organisation or those of a Third Party (including consultants and subcontractors) unless such disclosure is essential to the effective preparation of the Tender or, where applicable, the proper performance of the Contract. TNO acknowledges the confidentiality of all information provided in support of the Tender and undertakes not to disclose such information to unauthorized parties. However, Tenderers are advised that TNO is under a legal obligation to explain and justify the Award Decision, which may entail the disclosure of information pertaining to the Tenders received, both successful and unsuccessful.

Please note that the Tender Instructions contains Appendices that are not provided via TenderNed due to the confidential nature of the documents in question. Interested tenderers are requested to request these documents by sending an e-mail to the contract person, see paragraph 2.2.4, with the request to send the relevant **Appendices D1 to D13**. Without being in possession of these appendices, TNO expects that interested tenderers will not be able to submit a suitable tender.

#### **2.2.10 Distortion of competition**

Attempts to distort fair competition, such as collusion or cartel-forming, are grounds for disqualification. Where TNO has plausible indicators of any such attempt, the Tenderer will first be given an opportunity to prove

otherwise. If, in the sole opinion of TNO, the Tenderer is not able to provide a satisfactory defense, he will be excluded from the remainder of the Tender Procedure.

#### **2.2.11 Withdrawal of Tender**

Once a Tender has been submitted it cannot be withdrawn. The Tender will remain in place throughout its period of validity.

#### **2.2.12 Period of validity**

The Tender represents a formal offer which must remain valid for ninety (90) days from the deadline for the submission of Tenders. This period of validity is automatically extended until the point at which the final Contract is signed with the Tenderer who emerges as the Provisional Contractor.

If an objection to the Award Decision is placed before the judicial authorities, the period of validity will (if necessary) be further extended by a period of thirty calendar days following the day on which the court returns its judgment.

#### **2.2.13 Terms and Conditions of Contract**

The Award of the Contract is to be effected by means of:

- A one off Purchase Order for the delivery of the CO<sub>2</sub> Flow Loop unit.
- TNO's General Purchasing Conditions, version of February 2022, as included as **Appendix C02**, except where the Tender Documents and/or Framework Agreement include alternative provisions, in which case the Tender Documents and/or Framework Agreement take precedence.

As provided by Paragraph 2.3 of the Tender Instructions, the Tenderer is allowed to propose amendments to the General Purchasing Conditions. TNO will confirm the amendments to be made, which will be listed in the final Memorandum of Information.

Acceptance of the final version of the Contract and/or the amended General Purchasing Conditions is to be regarded as a minimum requirement. Failure to meet this requirement in full will result in exclusion from the remainder of the Tender Procedure.

The submission of a Tender indicates the Tenderer's full acceptance of all terms and conditions applicable at the time of submission.

#### **2.2.14 Suppliers' Terms and Conditions; Provisional Tenders**

TNO will not be bound by any Terms and Conditions of Supply imposed by the Tenderer or by any Third Party, including but not restricted to subcontractors, auxiliaries or agents, at any time during the Tender Procedure or thereafter, during the performance of the Contract and related activities. An attempt to impose Terms and Conditions will render the Tender provisional and hence invalid. Tenders which are deemed provisional for this or any other reason will be excluded from further consideration.

#### **2.2.15 Legally valid signature**

The Tender and all related documents must be duly signed in ink by an authorised representative of the Tenderer organisation. The hard copy of each document is then scanned and sent to the email address of the contact mentioned in Paragraph 2.2.4. The signatory's authorisation to sign must be established by means of a certified extract from the Chamber of Commerce Trade Register. If the signatory is not listed as an authorised representative of the Tenderer organisation in the Trade Register, a mandate signed by a registered company officer must be provided. The extract and mandate must be submitted at the first request of TNO in accordance with the instructions and deadline stated in Paragraph 7.1 of the Tender Instructions.

#### **2.2.16 Reimbursement of Tender costs**

All costs incurred further to the production and submission of the Tender are to be borne by the Tenderer. TNO will not provide any form of reimbursement.

#### **2.2.17 Statement of prices and costs**

Prices and costs must be stated in euros (EUR) and excluding Value Added Tax (VAT). The prices and costs are to remain applicable throughout the Contract term except where the Contract terms make alternative

provisions. TNO wishes to make clear that price negotiations do not form part of the Tender Procedure.

#### **2.2.18 Publicity**

The Tenderer and any partners and/or subcontractors of the Tenderer must not make any public statement or comment about the Tender Procedure, except with the prior written permission of TNO.

#### **2.2.19 Intellectual property rights**

Except where expressly permitted under Copyright Law or where necessary for the successful preparation of a Tender, no part of the tender documents may be reproduced in any form, by print, photocopy, DVD, CD-ROM, microfilm or other means, without the prior written permission of TNO. Tenders and all accompanying documents submitted further to the Tender Procedure become the property of TNO upon receipt.

#### **2.2.20 Use of TNO logo**

It is not permitted to copy, modify or otherwise use the TNO logo on any documents submitted by the Tenderer further to the Tender Procedure.

### **2.3 Further information (questions)**

The Tender documents, including the Tender Instructions and Appendices, have been compiled with the greatest possible care. Interested parties are able to submit questions and requests for clarification at any time before the deadlines given in the schedule in Paragraph 2.1. The questions may relate to the contents of the Tender documents or to the Tender Procedure itself. Clarification may be sought where there are any apparent ambiguities or discrepancies between documents. Further information should be requested within the stated period and in the manner described in this paragraph. A Tenderer who fails to request information on time and in the prescribed manner will forfeit his right to object to any identified defects at a later date.

During the period between the Call for Tenders and the information deadline, Tenderers may also submit grounded questions, suggestions for amendments to the text of the Tender documents, including the TNO General Purchasing Conditions (**Appendix C02**). Suggestions should be restricted to textual improvements, editorial corrections and clarifications; they may not affect the essence of the Contract or the applicable Terms and Conditions. TNO reserves the right to act upon or reject such suggestions at its sole discretion.

Questions, comments and requests for supplementary information must be in English. They must only be submitted in writing, in the form of an email, and must use the 'editable' MS Excel template provided in **Appendix C01**. The specific aspect of the documents or procedure to which the query refers should be clearly indicated using the drop-down menu in Excel. The file must then be submitted by email to the TNO contact person named in Paragraph 2.2.4.

**IMPORTANT: Queries (i.e. Memorandum of Information) and requests for further information must be submitted directly through email to the TNO contact person.**

The TNO contact person will compile one or more Memoranda of Information which provide the answers to the questions submitted. The source of the questions will not be identified by name. The deadline for submitting questions is given in the schedule in Paragraph 2.1.

The Memoranda of Information will be published through email by the TNO contact person mentioned in Paragraph 2.2.4 in accordance with the schedule in Paragraph 2.1.

All questions and the answers provided are to be regarded as an integral component of the Tender Instructions. In principle, the Tender Instructions document becomes definitive with the publication of the final Memorandum of Information.

TNO advises interested parties to delay submitting a Tender until the final Memorandum of Information has been published since it may include information which affects the content of the Tender.

Responsibility for reading and acting upon the Memoranda of Information in a timely manner rests with the Tenderer. TNO advises Tenderers to delay submitting a Tender until the final Memorandum of Information has

been published. This may include information and details of changes to the Tender Instructions that affect the process of drawing up a Tender.

## 2.4 Disputes and applicable jurisdiction

All aspects of the Tender Procedure are subject to Dutch law. Any dispute requiring legal adjudication must in the first instance be placed before the Court in Interlocutory Proceedings in the District of The Hague. Tenderers who object to (any part of) the Tender Procedure, (any part of) the information provided, or any other aspect directly or indirectly relating to the Tender Procedure and likely to affect its outcome, must bring their objections to the attention of the TNO contact person named in Paragraph 2.2.4 at the earliest possible opportunity.

The period in which a formal objection can be lodged against the Award Decision or (the validity of) the Tender Procedure is ten (10) calendar days from the date on which the Award Decision is issued. The objection must be made in writing and served at the registered business address of TNO within the ten-day period. Where formal proceedings have not been instigated within the designated period, all rights will lapse.

Any Tenderer wishing to lodge an objection or appeal is requested to notify TNO prior to commencing proceedings.

Where a court order challenging the Award Decision and/or the Tender Procedure is sought, in a timely and legally valid manner, the Tenderer to whom the Contract has been provisionally awarded is expected to intervene. If the Tenderer fails to do so, they will forfeit their right to a judicial procedure or to third-party proceedings if the judgment in the first instance requires TNO to amend or withdraw the Award Decision. It is in the interests of all parties to create clarity at the earliest possible opportunity and this requires all arguments to be presented openly and without delay.

## 2.5 Submission of the Tender

### 2.5.1 Digital submission

The Tender comprises all forms in Appendices A01 to A06 which must be completed in full and signed by a legally authorised representative of the tendering organisation. The formats given in the Appendices must be used. For the signature requirements, see Paragraph 2.2.15.

For the current tender procedure, TNO has opted to use email as the method of communication. Therefore the completed Tender documents must be sent through email to the contact person mentioned in Paragraph 2.2.4 no later than **21 December 2023 at 13.30hrs**.

Tenders which are submitted beyond the published deadline will be excluded from the remainder of the Tender Procedure. Responsibility for the timely and correct submission of documents rests with the Tenderer at all times.

### 2.5.2 Structure and presentation

The following instructions apply to the structure and presentation of the Tender submission:

**Part A** comprises the following documents (files):

|                     |                                                      |
|---------------------|------------------------------------------------------|
| <b>Appendix A04</b> | Schedule of prices CO <sub>2</sub> Flow Loop unit    |
| <b>Appendix A05</b> | Conformity list Programme of Requirements            |
| <b>Appendix A06</b> | Notification of preferences and answers to questions |

All forms must be completed in full and then printed out. The paper hard copy is to be signed in ink by a legally authorised representative of the Tenderer organisation and then scanned to create a digital (PDF) version.

The various PDF files (Appendices **A04 to A06**) are to be placed in a single folder which must then be compressed ('zipped'). This folder should be named xxxx\_**part A**, where xxxx is replaced by (part of) the name of the Tenderer organisation. Please send this compressed folder to the contact person mentioned in Paragraph 2.2.4.

### 3 Evaluation of Tender and Tenderers

#### 3.1 Evaluation team

A multidisciplinary team will be assembled to undertake the qualitative evaluation of the Tenders. Its members will include experts in the subject matter and processes involved. The team members evaluate the Tenders on the basis of quality alone; they are not informed of the financial aspects.

Each member of the evaluation team assesses the Tender against the qualitative (sub-sub) award criteria, doing so independently and without reference to the other members of the team. A meeting is then held at which the individual evaluations are compared and discussed and consensus on score is reached and motivated. As a result the overall score given for each of the (sub-sub) award criteria is the consensus of the individual scores.

#### 3.2 Evaluation procedure

The evaluation procedure consists of several phases, as described in Chapters 4 to 8.

|                  |                                                                                                                                  |
|------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>Chapter 4</b> | Evaluation with regard to timely submission, form, presentation and completeness                                                 |
| <b>Chapter 5</b> | Not applicable.                                                                                                                  |
| <b>Chapter 6</b> | Evaluation against the Award Criteria. This is based on a numerical score for each material aspect.                              |
| <b>Chapter 7</b> | Not applicable.                                                                                                                  |
| <b>Chapter 8</b> | TNO's evaluation against the Minimum Requirements (with regard to Contract performance) and the Programme of Requirements (PoR). |

The activities involved in the overall evaluation procedure are (in chronological order):

- Confirming timely submission;
- Evaluation of form, presentation and completeness;
- Evaluation against Minimum Requirements;
- Evaluation of Tenders which have passed the preceding stages, against the Award Criteria.

Based on the overall evaluation, TNO will rank the Tenders in order. The Tender in first place is the '*Economically Most Advantageous Tender based on the Price-quality Ratio*' ('*Best PQR*').

At any time during the evaluation procedure, TNO may contact a Tenderer to request clarification where necessary. Tenderers are expected to provide a response within 48 hours.

## **4 Evaluation of timely submission, form, presentation and completeness**

### **4.1 Timely submission**

The Tender must be submitted before the published deadline. Any Tender which fails to meet this requirement will be deemed invalid and excluded from further consideration.

### **4.2 Form, presentation and completeness**

Tenders will be assessed in terms of completeness and compliance with the published instructions. The omission of required information will result in disqualification. If it is not possible to answer a question or to provide all requested information, the Tenderer should state reasons for the omission rather than leaving the space blank. TNO will then determine how to proceed. If it is possible to recover the requested information from another source, TNO may allow the Tender to proceed to the next stage in the evaluation process. Alternatively, the Tender will be declared invalid and excluded from further consideration.

Tenders which are incomplete and/or fail to comply with the presentation instructions will be declared invalid and excluded from further consideration.

## 5 Evaluation against Grounds for Exclusion and Eligibility Requirements

### 5.1 Grounds for Exclusion

The Tenderer will be evaluated against the Grounds for Exclusion. The Self-Declaration (European Single Procurement Document; Appendix A01, A02 and B03) includes a section which requires the Tenderer to confirm that none of the Grounds for Exclusion applies. If one or more of the Grounds for Exclusion does apply, the Tenderer will be excluded from the Tender Procedure. The Tenderer on who one or more of Ground of Exclusion applies, has the right to describe in the Self-Declaration if it has taken any self-cleaning measures which prove the Tenderer's reliability and/ or if exclusion is disproportionate (article 2.87a and 2.88 Dutch Procurement Act).

Where any of the Grounds for Exclusion applies to any one member of a Combination, the entire Combination is excluded from the Tender Procedure. The Combination, or one or more of its members, on who one or more of Ground of Exclusion applies, has the right to describe in the Self-Declaration if it has taken any self-cleaning measures which prove the Combination's reliability and/ or if exclusion is disproportionate (article 2.87a and 2.88 Dutch Procurement Act).

Where the Tenderer calls upon the resources or abilities of one or more Third Parties, as described in Para. 2.2.10, and one or more Grounds for Exclusion applies to any of those Third Parties, TNO will disallow the involvement of that Third Party. The Tenderer will then be given an opportunity to find another Third Party able to provide the necessary resources. The Tenderer must do so within seven (7) calendar days after TNO's message. If the Tenderer is unable to do so within the allotted period, or if the replacement Third Party is also subject to any other Grounds for Exclusion, the Tenderer will be excluded from the remainder of the Tender Procedure. Tenderers must be aware that the replacing Third Party must comply to the same Eligibility Requirements as the original Third Party.

In the first instance, a duly completed and signed Self-declaration form (Appendix **A01**) is enough to establish that none of the Grounds for Exclusion applies to the Tenderer. In the case of a Third Party, the Self-declaration form in Appendix **A02** is required. If the Tenderer is identified as the Provisional Contractor, it must provide evidence concerning the Self-Declaration. At the request of TNO, that Tenderer must provide the following evidential documents within the period stated Para. 7.1. In the case of a Combination, each individual member of that combination must submit these documents within the period stated Para. 7.1. Where the Tenderer calls upon the resources or abilities of one or more Third Parties, the Tenderer must submit these documents for each Third Party within the period stated Para. 7.1.

The evidential documents in question are:

- A certified extract from the Chamber of Commerce Trade Register pertaining to the Tenderer, or in the case of a Combination, to each member individually. The extract(s) must be dated no more than six months prior to the date of submission.
- A Certificate of Conduct (GVA) by the Tenderer or - in the case of a Combination - of any combinant and/or - if the Tenderer appeals to one or more Third Parties - every Third Party to which the Tenderer appeals. The Certificate of Conduct (GVA) is dated no more than two years prior to the date of submission of the Tender. To apply for a procurement statement, the Tenderer, combinant and/or Third Party must consult the Justis website ([www.justis.nl](http://www.justis.nl)) and follow the instructions contained therein regarding the application for a Certificate of Good Conduct;
- A declaration issued by the Tax Administration of the Tenderer or – in the case of a combination – of any combinant and/or – if the Tenderer appeals to one or more Third Parties – every Third Party to which the Tenderer appeals. The declaration must at the time of submission of the Subscription not exceed six months to prove that the Tenderer, combinant and/or Third Party has fulfilled his obligations under applicable legal provisions applicable to him relating to the payment of national insurance premiums or taxes.

Tenderers are reminded that it can take several weeks to obtain some types of evidential document. Especially a Certificate of Conduct (GVA), for which a maximum term of sixteen (16) weeks applies. It is therefore advisable to apply for them at the earliest possible moment. It will then be possible to produce the documents when required. It should also be noted that Tenderers are responsible for the timely submission of evidential documents, including documents pertaining to any Third Parties on whose resources they intend to rely. TNO therefore advises Tenderers to approach those Third Parties as soon as possible to make the

necessary arrangements. Third Parties should be made aware of the time needed to obtain some documents.

A Tenderer who fails to submit and/or fails to timely submit and/or fails to fully submit the requested evidential documents (pertaining to himself or to any Third Parties) on time will be excluded from the Tender Procedure, except when exclusion is disproportionate. TNO may then invite the party who came second in the evaluation process to submit evidential documents.

## 5.2 Evaluation of Eligibility Requirements

A Tenderer must be able to demonstrate the level of expertise and skill required to perform the Contract activities. These are termed the 'Eligibility Requirements'. The Tenderer is evaluated against the Eligibility Requirements as formulated for the Tender. If the Tenderer intends to call upon the professional expertise of one or more Third Parties, as described in Para. 2.2.10, TNO will assess whether each of those Third Parties fulfils the Eligibility Requirements.

The Eligibility Requirements apply to several aspects: financial and economic capacity, technical and professional ability, and professional qualifications. The Tenderer must meet all Eligibility Requirements in order to be considered for the Contract, either independently or by relying on the capacity of one or more Third Parties.

### 5.2.1 Financial and economic capacity

#### 5.2.1.1 Insurance

The Tenderer must hold full liability insurance with a cover of at least € 1.000.000 per event giving rise to damage or series of related events, or must be willing to meet this requirement if identified as the Provisional Contractor. The insurance cover must be in place for the entire term of the Contract.

In the first instance, a duly completed and signed Self-declaration form (Appendix **A01**) is sufficient to establish that this requirement has or will be met. If, for the purposes of the present Eligibility Requirement, the Tenderer intends to rely on the financial and economic capacity of a Third Party, a separate Self-declaration must be submitted using the template provided as Appendix **A02**.

At the request of TNO, the Tenderer identified as the Provisional Contractor must submit evidence, within the period specified, of adequate insurance cover in the form of the policy document or a certificate of insurance issued by a recognized insurance company, showing that the Tenderer is insured as required in the Tender documents. Where the policy document is in the name of a holding company, group or concern, the Tenderer must present a copy together with evidence that cover extends to the Tenderer organization.

Where the Tenderer is not (yet) in the possession of the insurance policy or a certificate of insurance issued by an insurance company, within the period specified, he must complete, sign and return a Declaration of Intent to do so (Appendix **B04**). This is a statement to the effect that the Tenderer will obtain the required insurance cover and present the necessary evidential documents no later than **seven calendar days** before the signing of the Contract. It should be noted that this is a suspensory condition; failure to provide a copy of the policy or a certificate of insurance issued by the insurance company will result in the Contract offer being withdrawn and the Tender being deemed invalid. TNO will not issue confirmation of the Contract until the deadline for legal objections has passed or, if an objection is indeed lodged, it is overruled by the court. The Contract itself cannot be signed until TNO is in possession of evidence that the Tenderer holds the required insurance cover. In the absence of such evidence, TNO reserves the right to withdraw the Contract offer, whereupon the runner-up in the Tender evaluation process will assume first place and will be identified as the Provisional Contractor.

The prescribed document format for the insurance policy or certificate of insurance is enclosed as Appendix **B04**.

### 5.2.2 Professional authority

By completing the Self-declaration (Appendix **A01**) the Tenderer declares that he is registered in the relevant professional register or trade register, in compliance with all requirements of the member state in which he is based.

At the request of TNO, the Tenderer must provide the following evidential documents within the period stated in Para. 7.1:

- For companies registered in the Netherlands: an original certified extract from the Chamber of Commerce Trade Register should be submitted. This must be no more than six months old at the time of submission. Companies registered in another country should provide a comparable document in accordance with national legislation and practice.
- If the Tenderer is a legal partnership, extracts should be submitted for all parties who are included on the Trade Register, together with a declaration signed by all partners establishing the right of representation with regard to the Tender.
- If the Tenderer is a Combination, an extract should be submitted for each member.
- If the Tenderer intends to call upon the resources of one or more Third Parties or subcontractors, extracts should be submitted in respect of each Third Party or subcontractor.

## 6 Evaluation against Award Criteria

TNO will evaluate and rank the Tenders based on the Award Criteria. In this case, the primary consideration will be the Price-Quality Ratio.

### 6.1 Best Price-Quality Ratio

This criterion is divided into the following sub-award criteria and weighting factors. A numerical score is given in respect of Price (TP), and another for Quality (KW).

| Award criteria | Max. points |
|----------------|-------------|
| Price (TP)     | 400         |
| Quality (KW)   | 600         |
| <b>Total</b>   | <b>1000</b> |

The Tender with the highest overall score is designated the '*Economically Most Advantageous Tender based on the Price-quality Ratio*' ('Best PQR'). The scores are rounded down to the nearest (1) decimal point. The overall score is the total of all non-rounded scores.

The Call for Tenders will state the maximum scores available for each (sub-) sub-award criterion.

In the event of a 'tie' – two Tenders with exactly the same overall score, the choice will fall to the Tender with the highest score for Quality. If the Tenders have equal scores for all sub criteria, a winner will be selected at random by an independent and impartial notary.

#### 6.1.1 Sub-award criterium: Price (TP)

To allow an evaluation of the Tender by total price (the TP sub-award criterium), the Tenderer should complete the schedule of prices and costs in **Appendix A04**. If this schedule is found to include omissions or inaccuracies, the entire Tender will be declared invalid and excluded from further consideration.

The price is assessed according to the following elements.

To allow a fair comparison of total price (TP), Tenderers must use the schedule provided by TNO as an MS Excel worksheet (**Appendix A04**). On completion, the schedule must be printed out, signed by an authorised representative of the Tenderer organisation. It should then be added to the Tender. The Tenderer must adhere to the prescribed format. All sections must be completed.

When evaluating the Tender against the sub-award criterium of price, TNO will check that the schedule of costs and prices (**Appendix A04**) has been completed in full. A price quotation on the basis of the schedule must meet the following minimum requirements:

- 1) Prices and costs must be stated in euros, excluding VAT, and accurate to two decimal places.
- 2) Only the unit prices and rates which appear on the price schedule will be included in the evaluation. They will remain valid throughout the duration of the Contract. Prices which deviate from those stated in the Tender Documents confer no rights or obligations on either party during the actual execution of the definitive Contract.
- 3) Hourly rates (if applicable) are deemed to be 'all-in' amounts which include all costs associated with the service provision, including but not limited to travel and accommodation expenses, office costs

and overheads. The Tenderer confirms that there will be no additional costs further to the performance of the Contract.

- 4) The schedule of prices must be completed in full. The Tenderer must use the MS Excel spreadsheet provided by TNO without any amendments or alterations.
- 5) The Tenderer is responsible for ensuring the accuracy of all figures and calculations.
- 6) All prices quoted by the Tenderer must be based on the contents of the Tender Documents and form a binding offer.
- 7) Specific minimum requirements and additional instructions for the completion of the Schedule of Prices can be found under the tab marked 'Additional Instructions'. Submission of the Tender indicates that the Tenderer accepts these conditions in full.

The Tender which offers the lowest Total Price (TP), corresponding to the lowest amount calculated for the total price, will be awarded the maximum of 400 points. Other Tenders will be scored *pro rata* in inverse proportion to the lowest Total Price (TP).

The calculation of the total number of points on Price is made using the following formulas:

$$\text{Points Price} = 400 - \left\{ \frac{(I - LI)}{LI} \right\} \times 400$$

Where:

**Points:** number of points scored for the criterion Price

**I:** Tender with "Total Price (TP)"

**LI:** Tender with lowest "Total Price (TP)"

If  $I \geq 2 \times LI$ , zero (0) points are awarded for the criterion Price (TP).

#### 6.1.2 Sub-award criterium: Quality (KW)

Chapter 8 of the Tender Instructions, the Programme of Requirements (PoR), sets out the Minimum Requirements which must be met during the performance of the Contract activities. These are hard requirements, as formulated by TNO.

In addition, the PoR includes a number of preferences with regard to the quality of the products/services concerned. These preferences have been identified by means of a process of consultation. Tenderers are asked to state whether and how they can meet these soft requirements. The ability to do so is likely to influence the assessment of quality. For each preference, the Tenderer is asked to provide a description which addresses certain specific aspects.

The description should be clear and unambiguous, covering all the relevant points in order.

Each submission must be no more than the stated number of A4 pages (printed on one side only, with a line spacing of at least 1, minimum font size of 9 pt and margins of 2.5cm left, right, top and bottom).

TNO will base its assessment solely on the answers given, which must remain within the permitted length. Tenderers should avoid including cross-references to other documents in an attempt to evade the length restriction. Illustrations, diagrams, tables, organograms and sample reports are permitted. Any appendices do not form part of the answer and will not be included in this part of the evaluation procedure.

It is possible that two or more tenderers will achieve the same scores for a particular question.

The answers setting out the manner in which the Tenderer proposes to meet the stated requirements must be presented in the template provided in **Appendix A05** in accordance with the instructions in Chapter 8. The Tenderer may use their own A4 format for further explanation, in accordance with the guidelines mentioned above.

The allocation of scores for Quality is shown in the table below.

| Sub-sub-award criteria: Quality           | Max points |
|-------------------------------------------|------------|
| <b>8.15.1</b> Management and coordination | <b>200</b> |
| <b>8.15.2</b> Earlier delivery            | <b>120</b> |
| <b>8.15.3</b> Engineering and Quality     | <b>280</b> |
| <b>Total</b>                              | <b>600</b> |

The evaluation of the answers to questions relating to the preferences listed in the PoR will also rely on a system of numerical scores. These scores will reflect the degree to which the Tenderer meets each preference. The various sub-sub-criteria will be scored by the individual assessors in accordance with the table below. The overall score (derived from the averages of the individual scores) will then be calculated as described in Paragraph 3.1.

| Rating            | Score | Notes                                                                                             |
|-------------------|-------|---------------------------------------------------------------------------------------------------|
| No/poor answer    | 0%    | <i>No answer given/ a poor answer which does not address TNO's preferences.</i>                   |
| Inadequate answer | 20%   | <i>Answer is not complete, unsatisfactory or otherwise not in keeping with TNO's preferences.</i> |
| Adequate answer   | 50%   | <i>Answer is complete, satisfactory and in keeping with TNO's preferences.</i>                    |
| Good answer       | 80%   | <i>Answer is good and exceeds TNO's preferences.</i>                                              |
| Very good answer  | 100%  | <i>Answer is excellent and exceeds TNO's preferences in every respect.</i>                        |

NB: These are the only possible scores: there are no intermediate values.

When evaluating the degree to which the Tender addresses TNO's preferences, the assessors will consider:

- the degree to which the proposed solution is specific, realistic, feasible, effective, complete and consistent
- the degree to which the proposed solution is in keeping with the specific situation and circumstances, and
- the degree to which it address the (hard) requirements and preferences stated in the PoR.

The evaluation is based on the 'total picture' created by each answer.

## 6.2 Contract Award

### *Announcement of Contract Decision*

All Tenderers will be notified of the results of the evaluation and the Award Decision. Every effort will be made to ensure that this notification is given on the date stated in the Schedule in Paragraph 2.1.

The notification of the Award Decision will state the outcome of the tender evaluation and subsequent result award or reject. In the interests of confidentiality, TNO will not provide any information relating to the Tender price offered by the unsuccessful Tenderers.

## **7 Evaluation of evidential documents and other documents**

### **7.1 Submission of evidential documents and other documents**

The Tenderer identified as the Provisional Contractor must submit all necessary documents and information in support of the statements made in the Self-declaration, as well as any other documents and/or information necessary to determine whether the Tender meets all requirements and can be realised, no later than seven (7) calendar days of being requested to do so by TNO. (These documents in question are those supporting Appendices **B01** to **B04** and any others stipulated in the Tender Instructions and/or request for information.)

TNO will request the Provisional Contractor to submit the required evidential documents which will then be evaluated against the following criteria:

- Timely submission (within allotted period)
- Whether all requested documents have been provided and are complete. The absence of (part of) any document and/or other information may result in the disqualification of the Tender.
- Whether the documents support the Tenderer's eligibility, as claimed by means of the self-Declaration.

It is stressed that any Tenders which prove to include material errors or make claims which cannot be substantiated will be excluded from the Tender Procedure. Tenderers must therefore compile their Tenders with the utmost care and truthfulness.

TNO can request the Provisional Contractor to provide other documents or evidence concerning the contents of the Tender.

### **7.2 Suspensory conditions**

Where the Tenderer is unable to submit a copy of the required insurance policy or a certificate of insurance issued by a recognized insurance company within the period stated in the foregoing paragraph, but has nevertheless signed the Declaration of Intent in Appendix **B04**, and provided that the period permitted for objections has elapsed without any party notifying the intention to instigate legal action (or such action has been adjudicated in TNO's favour), TNO will notify the Tenderer of its intention to enter in a contract 'under suspensory conditions'. In practice, this means that the Contract may only be deemed final and valid if the Tenderer is able to submit a copy of the required insurance policy or a certificate of insurance issued by a recognized insurance company, showing that the Tenderer is insured as required in the Tender documents, no later than a period of seven (7) calendar days before the signing of the Contract. The Contract will be finalized upon receipt of one or other of these documents.

If the Tenderer fails to submit either a copy of the insurance policy or a certificate of insurance issued by a recognized insurance company, the Contract will be deemed null and void. TNO reserves the right to approach the party whose Tender was ranked second in the Tender Procedure with a view to entering into a Contract.

### **7.3 Contract signing**

If the conditions in paragraph 7.1 and 7.2 and no interlocutory proceedings are filed within twenty (20) days after Award decision, or, if proceedings are filed, the claims are denied, TNO will proceed to formalise the Award of the Contract by sending the Contractor a purchase order. TNO points out that the Contract has not been definitively awarded until the purchase order has been submitted to the Contractor by TNO.

## 8 Minimum requirements with regard to Contract performance (Programme of Requirements)

TNO will assess all Tenders against the Minimum Requirements which relate to the manner in which the Contract itself is to be performed. The Minimum Requirements imposed by TNO itself are listed in this Chapter 8, the **Programme of Requirements (PoR)**.

By submitting a Tender, the Tenderer indicates his unconditional acceptance of all Minimum Requirements, including the General Conditions of Purchasing TNO.

Tenders which do not comply unconditionally with all minimum requirements are deemed invalid and will be excluded from further consideration.

The Tenderer demonstrates the ability to meet the requirements and preferences by means of his answers to the various questions, which must be structured in accordance with the instructions given in this Chapter 8. The Tenderer will use the template provided in **Appendix A05** etc. according to the preferences stated in Paragraph 6.1.2. and **Appendix A06** concerning the Programme of Requirements.

Activities further to the Contract must be performed in full accordance with the Tender Documents and the Tender submitted by the Tenderer. TNO wishes to stress that the requirements listed in the PoR form binding Contract conditions. Any amendments to the PoR made during the term of the Contract are to be implemented within the framework provided by the Contract. TNO will ensure that there is no material alteration to the Contract or the obligations it imposes on either party.

Chapter 1 of this document sets out the purpose and scope of the Contract and hence the purpose and scope of the PoR. The Programme of Requirements is described in the following paragraphs 8.1 – 8.11:

### 8.1 Programme of Requirements of the CO<sub>2</sub> Flow Loop

| 8.1. Requirements Engineering |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.1.1                         | Contractor must perform the detail engineering for the CO <sub>2</sub> Flow Loop unit.                                                                                                                                                                                                                                                                                                                                                                                            |
| 8.1.2                         | The work must include detail engineering of all piping and supporting arrangements of the CO <sub>2</sub> Flow Loop unit on the basis of the 3D model supplied by TNO.                                                                                                                                                                                                                                                                                                            |
| 8.1.3                         | <p>The work must include detail engineering of the electrotechnical installation. The work must include the following activities:</p> <ul style="list-style-type: none"> <li>• Engineering and fabrication of Motor Control Centre (MCC)/Programmable Logic Controllers (PLC) panel,</li> <li>• Engineering and fabrication of Remote Inputs/Outputs panel (RIO),</li> <li>• Electrical installation on-site of panels and cabling,</li> <li>• Routing of cable trays.</li> </ul> |
| 8.1.4                         | <p>Contractor must adhere to a phased approach in the detail engineering and submit documents for approval to TNO during the execution of work:</p> <ul style="list-style-type: none"> <li>• Concept documents,</li> <li>• For Approval documents,</li> <li>• As Built documents.</li> </ul>                                                                                                                                                                                      |
| 8.1.5                         | The detail engineering must make reference to and adhere to all applicable norms and standards.                                                                                                                                                                                                                                                                                                                                                                                   |
| 8.1.6                         | All PED equipment and components of the CO <sub>2</sub> Flow Loop unit must be engineered and manufactured according to NEN-EN-13445 (Issue:2021) for pressure vessels and NEN-EN-13480 (Issue:2017) for piping.                                                                                                                                                                                                                                                                  |
| 8.1.7                         | The work must include detail engineering of frames, landings, landing gratings, supports, stairs, railings and handrails.                                                                                                                                                                                                                                                                                                                                                         |

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.1.8  | The work must include required strength and stability calculations of the supporting structures, including all frames and platforms, in accordance with all applicable norms and standards.                                                                                                                                                                                                                                                                                                                                                                                                                |
| 8.1.9  | All platforms must be classified as working platforms, and must be provided with a protective upright edge all around in accordance with NEN-EN-ISO 14122.                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 8.1.10 | Contractor and TNO must align on the routing and supporting arrangements of the piping of the CO <sub>2</sub> filling system between the gas storage and the separation vessel.                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 8.1.11 | Contractor must align with TNO on the extension of the routing and supporting arrangements of the safety relief lines and depressurization line that are part of the CO <sub>2</sub> conditioning system. In particular, <ul style="list-style-type: none"> <li>The safety relief lines, which need to be extended from their current design in the 3D model to a safe venting location.</li> <li>The depressurization line, which extends from the CO<sub>2</sub> conditioning system to the roof of the Sierra building (height circa 15-20m, visible on the left hand side of the 3D model).</li> </ul> |
| 8.1.12 | The length of the safety relief lines from SV-124, SV-133 and the combined relief line from SV-107, SV-102 and SV-123 to a safe venting location must be minimized, inherent to possible freezing effects.                                                                                                                                                                                                                                                                                                                                                                                                 |

| 8.2. Requirements Manufacturing |                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.2.1                           | Contractor must manufacture the piping. Required piping includes: <ul style="list-style-type: none"> <li>the CO<sub>2</sub> conditioning system,</li> <li>the CO<sub>2</sub> filling system,</li> <li>two System Under Test designs,</li> <li>piping between the CO<sub>2</sub> conditioning system and the cooling skid.</li> </ul> |
| 8.2.2                           | Contractor must manufacture the frames for supporting the cooling skid and for the balance of plant. The frames must be constructed from RVS 316(L) or galvanised carbon steel.                                                                                                                                                      |
| 8.2.3                           | The frames of the CO <sub>2</sub> conditioning system must be assembled using UNP and HEB profiles. A platform must be constructed on top of this structure with a security railing all around.                                                                                                                                      |
| 8.2.4                           | The frame around the Control container and the container for storage purposes (out-of-scope, delivered by TNO) must be assembled using UNP and HEB profiles. A platform must be constructed on top of this frame with a security railing all around.                                                                                 |
| 8.2.5                           | Stairs must be provided between the ground floor and the platform above the containers.                                                                                                                                                                                                                                              |
| 8.2.6                           | Stairs must be provided between the container platform and the platform of the CO <sub>2</sub> conditioning system.                                                                                                                                                                                                                  |
| 8.2.7                           | Contractor must manufacture the frame for a System Under Test in accordance with the 3D model supplied by TNO, in such a way that various geometrical designs of the System Under Test can be attached to and/or supported by the structure.                                                                                         |
| 8.2.8                           | Contractor must install panels around (part of) the frame of the CO <sub>2</sub> conditioning system, in accordance with the 3D model supplied by TNO.                                                                                                                                                                               |
| 8.2.9                           | The panels must be water and wind resistant, and must be delivered in colour RAL 5002.                                                                                                                                                                                                                                               |
| 8.2.10                          | Contractor must install two water and wind resistant doors on the side of the CO <sub>2</sub> conditioning system facing the System Under Test that open up to the outside, in accordance with the 3D model supplied by TNO.                                                                                                         |

| 8.3. Requirements Fabrication |                                                                                                                                                                                                               |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.3.1                         | Welding must be classified according to EN–ISO 3834-3.                                                                                                                                                        |
| 8.3.2                         | Non-product contact parts, product contact parts and transfer panels (piping, valves, fittings, ferrules and flanges according to ASME BPE) must be pickled and passivated.                                   |
| 8.3.3                         | All welding must be performed by certified welders according to EN–ISO 9606-1, using certified equipment, according to an approved welding plan according to EN–ISO 15614(-1) and in a suitable environment.  |
| 8.3.4                         | Visual inspection of primary welds must be performed according to EN–ISO 5817; percentages and acceptance levels to be discussed and agreed upon between TNO and Contractor following the detail engineering. |
| 8.3.5                         | Non-destructive investigation of primary welds on the process installation parts, must be performed according to EN 13445-5.                                                                                  |

| 8.4. Requirements Installation |                                                                                                                                                                                                                                          |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.4.1                          | Assembly and installation must be performed in a modular fashion, in such a way that the modules can be transported by truck and subsequently installed at TNO premises. Contractor must supply a detailed plan on their way of working. |
| 8.4.2                          | Contractor must perform the welding, assembly and installation of all (electrotechnical and mechanical) components, field cabling and instrumentation of the CO <sub>2</sub> Flow Loop unit.                                             |
| 8.4.3                          | Contractor must perform the fixation of CO <sub>2</sub> Flow Loop unit to ground by means of drilling and anchoring.                                                                                                                     |
| 8.4.4                          | The routing and installation of all pneumatic lines to the valves and booster pump C-200 must be done within the work, meaning that no drawings are available. Contractor must consult and align with TNO on appropriate routing.        |
| 8.4.5                          | Contractor must provide and install lighting with Lux values in accordance with NEN-EN 12464-2 such that TNO personnel can navigate the walking areas of the CO <sub>2</sub> Flow Loop unit safely.                                      |
| 8.4.6                          | Installed lighting following NEN-EN 12464-2 must be of LED type with colour temperature in the range 2700-3000 K, and must have IP65 or better.                                                                                          |
| 8.4.7                          | The electrotechnical installation must be in accordance with NEN 1010 and NEN 3140.                                                                                                                                                      |
| 8.4.8                          | Contractor must consider the maximum lifting load of 10-ton of the overhead crane which is available (and free of charges) at the intended location of the CO <sub>2</sub> Flow Loop unit.                                               |
| 8.4.9                          | Operation of the 10-ton overhead crane must be performed by TNO personnel. TNO is responsible for operations performed with the 10-ton overhead crane.                                                                                   |
| 8.4.10                         | Contractor must consider that cargo trucks with an axle load up to 20 ton can access the area adjacent to the intended location. Cargo trucks with an axle load above this limit will not be allowed access to the facility.             |
| 8.4.11                         | The installation and use of scaffolding, platforms, lifting (this excludes usage of the 10-ton overhead crane which must be operated by TNO personnel) during activities on-site at TNO are the responsibility of the contractor.        |
| 8.4.12                         | The positioning and installation of components, assemblies and sub-assemblies is the responsibility of the Contractor.                                                                                                                   |
| 8.4.13                         | For flanged connections, gasket type, bolt and nut characteristics and torques are to be specified and delivered by Contractor.                                                                                                          |
| 8.4.14                         | Tightening of flanged connections must be performed according to the Gasket Installation Procedure of European Sealing Association E.V.                                                                                                  |

| 8.5. Requirements Inspections |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.5.1                         | The FATs and SATs exclusively relate to the quality and electrical/mechanical functioning of the components, assemblies and sub-assemblies. The FATs and SATs do not relate to the performance of the installation as a whole, which is the responsibility of TNO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 8.5.2                         | <p><u>FAT:</u></p> <ul style="list-style-type: none"> <li>- The contractor draws up a FAT plan which, after approval by TNO, is implemented. The FAT includes at least: <ul style="list-style-type: none"> <li>• Visual inspection of installation and manufacturing handbook.</li> <li>• Leak test and strength test.</li> <li>• Check of electric circuits upon installation, if possible.</li> </ul> </li> <li>- TNO personnel can be present during the FAT.</li> <li>- The contractor submits the signed FAT to TNO.</li> </ul> <p>Functional testing and system testing will be performed during the SAT.</p> <p><u>SAT:</u></p> <p>After installation of the CO<sub>2</sub> Flow Loop unit, Contractor will assist during a 1-day SAT on TNO premises. TNO is responsible for delivery and performing of the SAT protocol.</p> |

| 8.6. Requirements Safety |                                                                                                                                                                                                                                                                   |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.6.1                    | All work performed at the TNO location must be performed according to Dutch ARBO regulations. Contractor confirms to have knowledge about these required regulations.                                                                                             |
| 8.6.2                    | Contractor must develop a Health, Safety and Environment (HSE) plan for activities foreseen at the TNO location. Contractor must submit the signed HSE plan to TNO. Contractor must also comply with the TNO Work Permit System and process this in the HSE plan. |

| 8.7. Requirements Transport |                                                                                                                                                                                               |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.7.1                       | The transport of components, assemblies and sub-assemblies from TNO location to Contractor's workshop and from Contractor's workshop to TNO location is the responsibility of the Contractor. |
| 8.7.2                       | Timing of transport of assemblies and sub-assemblies must be coordinated between Contractor and TNO.                                                                                          |

| 8.8. Requirements Materials |                                                                                                                                                                                                   |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.8.1                       | All piping material must be RVS 316 (including connection to heat exchangers).                                                                                                                    |
| 8.8.2                       | Contractor must be responsible for the procurement and installation of all required brackets and mounting materials for the manufacturing and installation of the CO <sub>2</sub> Flow Loop unit. |
| 8.8.3                       | Power- and instrument cabling has to be of a halogen free type.                                                                                                                                   |

| 8.9. Requirements Insulation |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.9.1                        | <p>Contractor must develop a plan for thermal insulation during the execution of the work, and submit this for review to TNO. In particular, this plan should address</p> <ul style="list-style-type: none"> <li>• Assignment of either 'hot' or 'cold' thermal insulation type to all relevant equipment,</li> <li>• Materials used for cold or hot insulation,</li> <li>• Methodology for determining required insulation thickness of the equipment,</li> <li>• Methodology for applying insulation.</li> </ul> |
| 8.9.2                        | Thermal insulation must be provided to all components and piping of the CO <sub>2</sub> conditioning system and the System Under Test piping designs. Selection of thermal insulation type (hot/cold) to be made on basis of expected temperature range reported on PDF 53367-TEP-003.                                                                                                                                                                                                                             |

| 8.10. Requirements of the CO <sub>2</sub> Flow Loop unit |                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.10.1                                                   | The piping of the CO <sub>2</sub> Flow Loop unit must be produced on the basis of the 3D model developed by TNO. Note that this 3D model are not be to be considered as manufacturing drawings, but as basis for detail engineering.                                                                                                                                                                  |
| 8.10.2                                                   | The CO <sub>2</sub> Flow Loop unit installation must contain all equipment, piping connections and parts mentioned on the P&IDs. Equipment and parts are made available to Contractor by TNO for transport prior to assembly. Component lists are provided in Appendix D01-B07 Mechanical components are assigned a TAG number on the PIDs; their specifications can be found in the component lists. |
| 8.10.3                                                   | The CO <sub>2</sub> Flow Loop unit must be suitable for outdoor use.                                                                                                                                                                                                                                                                                                                                  |

| 8.11. Requirements Control container |                                                                                                                                                                                                                                                                                    |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.11.1                               | The Control container must be a 10 ft galvanized steel container. Outer dimensions typically LxWxH 3030 x 2440 x 2590 mm.                                                                                                                                                          |
| 8.11.2                               | The Control container must be installed next to the 10 ft container intended for storage purposes (out-of-scope, supplied by TNO), in accordance with the 3D model supplied by TNO.                                                                                                |
| 8.11.3                               | The Control container must be delivered in colour RAL 5002 on the outside. The surface finishing of the walls and ceiling on the inside must be delivered in colour RAL 9010.                                                                                                      |
| 8.11.4                               | The Control container must be provided with thermal insulation and a HVAC system, such that the air temperature within the Control container can be maintained at 20 °C for outside air temperatures between 0°C to +30°C.                                                         |
| 8.11.5                               | The Control container must be provided with acoustic insulation such that the overall sound reduction index of the Control container $R_w=25$ dB or better.                                                                                                                        |
| 8.11.6                               | The MCC/PLC and RIO panels must be installed in an electronics cabinet. The electronics cabinet must be surface finish powder coated with colour RAL 7035, and plinths RAL 9005. The cabinet(s) must be installed and secured in the Control container.                            |
| 8.11.7                               | The Contractor must provide the MCC/PLC and RIO panels with suitable Ingress Protection.                                                                                                                                                                                           |
| 8.11.8                               | Cable entry for field cabling into the Control container must enter the container from the bottom. Cable entry holes must be covered with metal plates. Cables inside of the container must be routed via cable trays along the walls.                                             |
| 8.11.9                               | Contractor must install lighting of LED type in the Control container, with colour temperature in the range 3500-4500 K.                                                                                                                                                           |
| 8.11.10                              | The electrotechnical installation must have over voltage protection.                                                                                                                                                                                                               |
| 8.11.11                              | The Control container must be delivered with at least two double outlet sockets, which must be installed on the wall of the container in which the windows shall be installed. The outlet sockets must be installed at a height of 80 cm above the floor of the Control container. |
| 8.11.12                              | The electrotechnical installation must be in accordance with NEN 1010 and NEN 3140.                                                                                                                                                                                                |
| 8.11.13                              | All materials in the Control container (including thermal insulation) must be of Fire Classification B or better, in accordance with NEN-EN-13501-1.                                                                                                                               |
| 8.11.14                              | The floor of the control container must be designed for intensive use, wear-resistant, seamless and anti-slip.                                                                                                                                                                     |
| 8.11.15                              | The Control container must be equipped with at least two windows with a U-value of 2.9 or less. At least one window must be a standard tilt and turn window.                                                                                                                       |
| 8.11.16                              | The windows of the Control container must be able to be locked from the inside with a key. The lock must be of SKG three star quality mark or better.                                                                                                                              |
| 8.11.17                              | The windows must be installed in the sidewall of the Control container facing the System Under Test, as illustrated in the 3D model supplied by TNO.                                                                                                                               |
| 8.11.18                              | The window profiles must be made from PVC. The bottom of the window profiles must be installed at a height of 80 cm above the floor of the Control container.                                                                                                                      |

|         |                                                                                                                                                                                                                                           |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.11.19 | The windows must have a minimum total surface area of at least 0.8 m <sup>2</sup> , and a total surface area no larger than 2 m <sup>2</sup> .                                                                                            |
| 8.11.20 | The windows must have a ventilation grille which can be adjusted from the inside.                                                                                                                                                         |
| 8.11.21 | The ventilation capacity of opened windows and ventilation grills must be at least 0.7 dm <sup>3</sup> /s per m <sup>2</sup> of floor area of the control container, with a minimum of 7 dm <sup>3</sup> /s, in accordance with NEN 1087. |
| 8.11.22 | An acoustic smoke detector must be installed at a central location of the ceiling of the Control container.                                                                                                                               |
| 8.11.23 | A 5 kg CO <sub>2</sub> fire extinguisher and a 6 litre foam fire extinguisher must be installed in the Control container.                                                                                                                 |
| 8.11.24 | The Control container must have a single door (dimensions circa WxH 1000x2000mm) installed on the side of the container facing the concrete wall and must open clockwise towards the outside.                                             |
| 8.11.25 | The door of the Control container must be equipped with at a knob cylinder lock with an SKG three star quality mark or better.                                                                                                            |
| 8.11.26 | The Control container will be used as an office space, and as such it must comply with all Dutch and European standards and laws at the time of delivery of the CO <sub>2</sub> Flow Loop unit.                                           |

| 8.12. Requirements Documentation |                                                                                                                                                                                           |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.12.1                           | All documentation must be written in the English language; format of documentation must be agreed with TNO.                                                                               |
| 8.12.2                           | Contractor must supply a PED declaration of conformity of piping.                                                                                                                         |
| 8.12.3                           | Contractor is responsible for the process to acquire a CE certificate for the CO <sub>2</sub> Flow Loop unit.                                                                             |
| 8.12.4                           | Contractor must supply CE declarations of the CO <sub>2</sub> Flow Loop unit (PED and machine guideline, low-voltage guideline).                                                          |
| 8.12.5                           | Contractor must supply mechanical drawings process pipe pieces, frames, supports, landings, rails and stairs.                                                                             |
| 8.12.6                           | Contractor must supply reports on strength and stability calculations (frames, stairs and landings).                                                                                      |
| 8.12.7                           | Contractor must supply electrotechnical drawings and documents (wiring schematic, lay-out of cabinet etc.)                                                                                |
| 8.12.8                           | Contractor must supply welding documents (WPS, WPQ, PQR).                                                                                                                                 |
| 8.12.9                           | Contractor must supply material certificates.                                                                                                                                             |
| 8.12.10                          | Contractor must supply all documents required upon delivery according to guidelines and standards (e.g. Manufacturing Record Book, partly with the above-mentioned documents, manual(s)). |
| 8.12.11                          | Contractor must supply (non-destructive) test certificates (test plan, leak test, strength test; PED max. 100 barg, electrotechnical tests/inspections).                                  |

| 8.13. Requirements Communication and Meetings |                                                                                                                                           |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 8.13.1                                        | All communication must be performed in the English language.                                                                              |
| 8.13.2                                        | Contractor must organise weekly Microsoft Teams meetings with TNO to align on progress and status during detail-engineering.              |
| 8.13.3                                        | Contractor must organise bi-weekly Microsoft Teams meetings with TNO to align on progress and status during the remainder of the Project. |

| 8.14. Requirements Overall Timing |                                                                                                                                                                                       |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.14.1                            | The CO <sub>2</sub> Flow Loop unit shall be delivered and installed at TNO premises at Rijswijk no later than 22 weeks after contract award.                                          |
| 8.14.2                            | Contractor must provide a detailed time-planning of the foreseen activities, including milestones, a specification of the allocated resources and expected duration of each activity. |

| 8.15. Preferences |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.15.1            | <p><u>Management and coordination</u></p> <p>The project involves various technical disciplines and supply chains. In order to make the project a success, a well-thought through management plan needs to be formulated. TNO expects a management plan that at least involves a strategy that ensures all resources and supply chains are kept (technically) informed and aligned with the schedule, and contingency strategies to ensure the delivery and delivery time are not affected by unforeseen events.</p> <p>Please describe</p> <ul style="list-style-type: none"> <li>- your management and coordination capabilities to execute the work in a timely manner,</li> <li>- a description of the control measures you have in place to ensure the schedule is met,</li> <li>- a description of alternatives or measures you have available should a delay occur, for example in relation to delivery of materials,</li> </ul> <p>Tenderer's answer must be not more than 3 A4 pages, according to the instructions in Paragraph 6.1. For this award criterium a maximum score of 200 points can be achieved.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 8.15.2            | <p><u>Earlier delivery</u></p> <p>Corresponding to requirement 8.14.1 the CO<sub>2</sub> Flow Loop unit must be delivered and installed at TNO premises no later than 22 weeks after Contract award. TNO attaches great value to earlier delivery. Contractor will be awarded points for each week the CO<sub>2</sub> Flow Loop unit is delivered and installed at TNO premises sooner than 22 weeks after Contract award. In contrast to the scoring methodology as mentioned in (the table from) section 6.1.2, the scoring of this preference is done as follows. For this award criterium a maximum score of 120 points can be achieved, according to schedule below:</p> <ul style="list-style-type: none"> <li>• <i>Delivery before the 19<sup>th</sup> week after Contract award:</i> 120 points</li> <li>• <i>Delivery within the 19<sup>th</sup> week after Contract award:</i> 90 points</li> <li>• <i>Delivery within the 20<sup>th</sup> week after Contract award:</i> 60 points</li> <li>• <i>Delivery within the 21<sup>st</sup> week after Contract award:</i> 30 points</li> <li>• <i>Delivery within the 22<sup>nd</sup> week after Contract award:</i> 0 points</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 8.15.3            | <p><u>Engineering and quality</u></p> <p>TNO values high-quality of the final deliverable of the project. To realize this, processes leading up to the deliverable must show attention to detail with respect to quality of work, quality assurance and quality control. To ensure that the deliverables from the project are in line with expectations, TNO values a detailed description of the technical activities and the processes that are in place with Contractor to ensure high-quality of the work. Therefore, describe your proposal for</p> <ul style="list-style-type: none"> <li>• Detail engineering. As described in requirement 8.1.4 <b>Error! Reference source not found.</b>, the detail engineering must be done via a phased approach. TNO expects a detailed description of technical activities, adopted methodology and results during each intermediate stage. In your answer, describe at least <ul style="list-style-type: none"> <li>- The engineering steps in each (intermediate) phase and foreseen results</li> <li>- Applicable norms and standards you propose to use in each intermediate phase</li> </ul> </li> <li>• Quality control and quality assurance of the work. TNO expects information on the process of quality control and quality assurance during the work, and any procedures that are followed during detail engineering, manufacturing and realisation. In your answer, describe at least the internal quality control procedures during detail engineering and a description of internal manufacturing quality assurance towards reliability and integrity, such as testing of welded parts.</li> </ul> <p>Tenderer's answer must be not more than 4 A4 pages, according to the instructions in Paragraph 6.1. For this award criterium a maximum score of 280 points can be achieved.</p> |

| 8.16. Question |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.16           | <p><u>Sustainability</u></p> <p>Considering the growing awareness with regard to sustainable business practices, nationally and internationally, whether required by laws and regulations, promoted by the UN Sustainable Development Goals, or even by the changing societal expectations, there are numerous reasons in today's world that drive organizations to be more sustainable, including TNO.</p> <p>As you may know, ISO 20400 is an international standard that provides guidelines on sustainable procurement. The standard can be used by any organization that intends to improve their social, economic, and environmental sustainability.</p> <p>Do you apply the ISO 20400 guideline or similar guidelines and if so, how do or did you implement this in your own organisation? You may also answer the question by specifying what measures you already initiated to pursue a more sustainable procurement and where do you see opportunities for yourself and for TNO?</p> <p>Please describe your answer within maximum 2 A4 pages and please note that for this part no point will be awarded.</p> |

## 9 Appendices

All Appendices are part of the Tender Instructions. The Appendices fall into four categories:

A) To be submitted with Tender:

- |                     |                                                                                                                                                                                                                                                                                                                        |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Appendix A01</b> | Self-declaration by the Tenderer: European Single Tender Document (ESTD) <ul style="list-style-type: none"> <li>○ <i>If the Tender is to be submitted by a Combination, a copy of Appendix A01 must be submitted by each member of the Combination.</i></li> </ul>                                                     |
| <b>Appendix A02</b> | Self-declaration by all Third Parties on whose resources the Tenderer intends to rely: European Single Tender Document (ESTD) <ul style="list-style-type: none"> <li>○ <i>Where necessary, a copy of this form should be provided for each Third Party on whose resources the Tenderer intends to rely.</i></li> </ul> |
| <b>Appendix A04</b> | Schedule of Prices CO <sub>2</sub> Flow Loop unit 2023 FPL INK 100                                                                                                                                                                                                                                                     |
| <b>Appendix A05</b> | Conformity list Programme of Requirements                                                                                                                                                                                                                                                                              |
| <b>Appendix A06</b> | Notification of preferences and answers to questions                                                                                                                                                                                                                                                                   |

B) To be submitted on request (evidential documents):

- |                     |                                                                                                                                                                                                                                          |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Appendix B01</b> | Self-declaration with regard to subcontractor(s) to be deployed during performance of Contract <ul style="list-style-type: none"> <li>○ <i>Where necessary, a copy of this form should be provided for each subcontractor</i></li> </ul> |
| <b>Appendix B02</b> | Declaration re. use of Third Party financial and economic capacity                                                                                                                                                                       |
| <b>Appendix B03</b> | Declaration re. use of Third Party technical and professional competence                                                                                                                                                                 |
| <b>Appendix B04</b> | Declaration re. insurance policy/certificate of insurance                                                                                                                                                                                |

C) Additional information:

- |                     |                                                                        |
|---------------------|------------------------------------------------------------------------|
| <b>Appendix C01</b> | Standard template for Tenderer's questions - Memorandum of Information |
| <b>Appendix C02</b> | TNO General Purchasing Conditions, version February 2022               |
| <b>Appendix C03</b> | PID CO <sub>2</sub> Flow Loop unit                                     |
| <b>Appendix C04</b> | PFD CO <sub>2</sub> Flow Loop unit                                     |
| <b>Appendix C05</b> | PID Connection gas storage to separation vessel and SUT                |

D) Additional information: **sent upon request, see Paragraph 2.2.9):**

- |                     |                                                     |
|---------------------|-----------------------------------------------------|
| <b>Appendix D01</b> | Component lists – Process component list            |
| <b>Appendix D02</b> | Component lists – Valve list                        |
| <b>Appendix D03</b> | Component lists – Instrumentation pressure list     |
| <b>Appendix D04</b> | Component lists – Instrumentation flow list         |
| <b>Appendix D05</b> | Component lists – Instrumentation level list        |
| <b>Appendix D06</b> | Component lists – Instrumentation temperature list  |
| <b>Appendix D07</b> | Component lists– Instrumentation miscellaneous list |
| <b>Appendix D08</b> | 3D model of CO <sub>2</sub> Flow Loop unit          |
| <b>Appendix D09</b> | System Under Test designs (DN25 and DN15)           |
| <b>Appendix D10</b> | Electrical connections                              |
| <b>Appendix D11</b> | Electrical overview                                 |
| <b>Appendix D12</b> | Signal list for safety of installation              |
| <b>Appendix D13</b> | Cause & Effect diagram                              |

### Remarks:

Some of the forms and templates listed above are made available as 'editable' MS Excel or MS Word files. This is to facilitate both their completion by the Tenderer and the subsequent evaluation by TNO, in accordance with the relevant Chapters. Some (sections of the) documents are secured in order to prevent unintentional or undesirable changes. It is not permitted to make any alteration to the format or pre-completed content of any document. The format and text of all documents as included in the Tender Instructions will take precedence at all times.