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Technical Specifications (In-Cash Procurement)

34.00.00 - IOTS - 000004 : Helium supply

Technical_Specification - helium supply

SUPPLY

Technical Specification

HELIUM SUPPLY FOR ITER

Abstract:

This document defines the technical requirements for the procurement of the Helium and is an integral part of the Contract.

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1 Preamble

This Technical Specification is to be read in combination with the General Management Specification for Service and Supply (GM3S) – Ref [1] that constitutes a full part of the technical requirements.

In case of conflict, the content of the Technical Specification supersedes the content of Ref [1].

2 Purpose

This technical specification defines the conditions of the delivery and specifications of Helium to be delivered to ITER. It outlines the supply of *liquid and gaseous Helium.*

3 Acronyms & Definitions

3.1 Acronyms

The following acronyms are the main one relevant to this document.

Abbreviation	Description
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CLP	Classification, Labelling and Packaging of chemicals
CRO	Contract Responsible Officer
GM3S	General Management Specification for Service and Supply
IO	ITER Organization
ITP	Instructions to proceed
NPE	Nuclear Pressure Equipment
PE	Pressure Equipment
PIA	Protection Important Activities
PIC	Protection Important Component
PRO	Procurement Responsible Officer
REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

3.2 Definitions

Contractor: shall mean an economic operator who have signed the Contract in which this document is referenced.

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4 Applicable Documents & Codes and standards

4.1 Applicable Documents

This is the responsibility of the Contractor to identify and request for any documents that would not have been transmitted by IO, including the below list of reference documents.

This Technical Specification takes precedence over the referenced documents. In case of conflicting information, this is the responsibility of the Contractor to seek clarification from IO.

Upon notification of any revision of the applicable document transmitted officially to the Contractor, the Contractor shall advise within 4 weeks of any impact on the execution of the contract. Without any response after this period, no impact will be considered.

Ref	Title	IDM Doc ID	Version
1	General Management Specification for Service and Supply (GM3S)	82MXQK	1.4
2	#00 - PGC Volume 1	T6V4RP	6.3
3	PGC Annex 00 - List of the applicable annexes to the PGC SPS Volume 1	42FYPZ	4.1
4	PGC Annex 03 - Rules of cooperation between the HSPC and the contractors	UJ95AV	5.2
5	ITER Site Life-Saving Rules	YSU3VK	2.1

4.2 Applicable Codes and Standards

This is the responsibility of the Contractor to procure the relevant Codes and Standards applicable to that scope of work.

Ref	Title	Doc Ref.	Version
CS1	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)	-	-
CS2	Regulation (EU) 2024/2865 of the European Parliament and of the Council of 23 October 2024 amending Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (Text with EEA relevance)	-	-
CS3	Arrêté du 26 avril 1996 pris en application de l'article R. 237-1 du code du travail et portant adaptation de certaines règles de sécurité applicables aux opérations de chargement et de déchargement effectuées par une entreprise extérieure	-	-

5 Scope of Work

5.1 Scope of supply

5.1.1 Products

The scope of this specification is the supply of Helium to ITER.

The scope is detailed as follows:

1. Liquid Helium delivered in cryogenic trailers
2. Gaseous helium in high pressure tube trailers

The purity shall be minimum grade 4.5.

Needs may fluctuate from one year to the next. It is impossible to accurately anticipate the quantities of liquid and gas that will be ordered. However, a basis of estimates is presented in *Appendix 1*.

Note: All these quantities are given for information only and cannot be considered as commitments of consumption by ITER.

5.1.2 Particularity of delivery for liquid Helium

In order to take into account, the available storage capacities the quantities delivered can be reduced to 8000 litres for a container of 11 000 gallons minimum unless otherwise indicated by the beneficiaries.

All necessary connection materials shall be included in ITER scope.

5.1.3 Particularity of delivery for gaseous Helium

Helium gas will be delivered by trailers of minimum 2,000 m3 or 340 Kg.

All necessary connection materials shall be included in ITER scope.

5.1.4 Access to ITER site

Access to ITER requires the respect of particular conditions as defined in the “General Management Specification for Service and Supply (GM3S)” Ref [1]. The Contractor must therefore approach ITER to enquire the specific terms of access. The contractor shall deliver at the ITER site during the opening hours.

5.1.5 Delivery execution

The Contractor is required to comply with the requirements of the loading / unloading safety protocols and any other security document.

The Contractor applies and ensures the application of the regulations relating to the transport of dangerous goods when the conditions of transport and delivery fall under it.

ITER reserves the right to verify the compliance of transport with the European Agreement concerning the international carriage of dangerous goods by road, called ADR, supplemented by the French decree (s) in force, and to refuse the unloading operation, even to refuse access or to request the immobilisation of the vehicle if the safety conditions are not respected. The settlement of these situations is the responsibility of the Contractor.

ITER reserves the right to permanently refuse access to an employee of the Contractor who does not respect the safety instructions, and to request its replacement as soon as possible by a person with same qualifications.

Transport tanks used by the Contractor must in particular be covered by a valid approval issued by the competent authority for the duration of their use at ITER.

In case of difficulty relative to a delivery, the Contractor will inform as soon as possible ITER, so that it can judge the opportunity to confirm or cancel the order in question.

5.1.6 Delivered quantities and qualities

Upon ITER request the Contractor shall issue the detailed technical procedure of the measuring method to be adopted by mutual agreement between the Parties.

5.2 Option – Helium Storage

The Contractor shall have the possibility to assess, develop, and propose suitable storage solutions for helium on the ITER behalf. These solutions may include both:

- **Physical storage**, and
- **Virtual storage arrangements** (with guaranteed availability and/or contractual reserve capacity.

The proposed solutions shall cover foreseeable and unforeseeable operational needs, including partial or full, temporary storage of the ITER helium inventory.

The Contractor shall provide detailed technical, operational, and commercial descriptions of the proposed storage options as part of its offer. These proposals shall be subject to review and agreement within the framework of the Contract.

6 Location for Scope of Work Execution

The helium shall be delivered to the cryoplant Area 53.

7 IO Documents & IO Free issue items

"No input nor free issue item is expected from IO"

8 Deliverables and Schedule Milestones

8.1.1 Planning of deliveries

The ITPs specify the quality and the quantity of product, as well as the date and possibly the precise time slot for the delivery.

The expected delivery interval for liquid trailer is 8 weeks from the date of final signature on the ITP, subject to ITER having made the liquid trailer again available to Contractor in due time.

The expected delivery interval for gas trailer is 4 weeks from the date of final signature on the ITP, subject to ITER having made the gas trailer again available to Contractor in due time.

The Contractor will indicate in their response if they can commit to a better deadline if it is requested.

8.1.2 Transmission of Material Safety Data Sheets and Technical Data Sheets

The Contractor shall on ITER demand transmit the safety data sheet of the delivered products free of charge in both French and English, both in paper form and in electronic form as follows:

- At the request of the prescriber when ordering, the delivered chemical must be accompanied by its safety data sheet in French and on paper,
- At the first delivery, its French and English safety data sheet must be transmitted in electronic form to a single electronic address stipulated at the start of the contract.

The safety data sheets shall be established in accordance with Annex II to Regulation (EC) N ° 1907/2006 of 18/12/2006, commonly identified as "REACH", and in any case in accordance with the relevant regulations in force.

In addition, since 01/12/2010, in accordance with Regulation (EC) No 1272/2008 ("CLP"), the safety data sheets of the products supplied must be up to date and contain the classification carried out in accordance with the Regulation (EU) 2024/2865 of the European Parliament and of the Council of 23 October 2024 amending Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures ('CLP').

The Contractor will also ensure the accuracy of the information in the safety data sheets by ensuring any necessary updates as soon as possible, as soon as new information that may affect the risk management measures or new information relating to the hazards is available.

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The new dated version of the information, identified as "Revision: (date)", will be provided free of charge in electronic form, in French and English, to a unique email address specified at the start of the contract.

The technical data sheets of the products will be transmitted to the first order, at the request of the prescriber and following each modification of these.

8.1.3 Documents to supply with each delivery

The documents that must be submitted during deliveries are the following:

- The delivery notes with clear reference to the Instruction to Proceed (ITP), stating:
  - The delivery date
  - The nature of the product,
  - The quantity delivered
- The analyses certificate – if requested by ITER
- In the case of a delivery subject to ADR, the copy of the corresponding ADR transport document.

ADR - *European Agreement concerning the International Carriage of Dangerous Goods by Road*

The Contractor will provide products conforming to the technical specifications requested by ITER. In case of non-compliance, the product will be exchanged for a compliant product at the expense and risk of the Contractor.

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9 Quality Assurance requirements

The Quality class under this contract is QC4, [Ref 1] GM3S section 8 applies in line with the defined Quality Requirements.

10 Safety requirements

The Supplier and Subcontractors shall observe all applicable environment, safety and health provisions for work on the ITER Site, as well as specific requirements set out in this Technical Specification.

Any activity by the Supplier and Subcontractors at the ITER Site shall be subject to the Internal Regulations as referred in [Ref 1] GM3S]. Any activity by the Supplier and Subcontractors on the ITER Construction Site shall be subject to the "ITER Policy on Safety, Security and Environment Protection Management as referred in Ref 9 of [Ref 1] GM3S] and resulting procedures. Any additional applicable provisions regarding environment, safety and health shall be communicated by ITER to the Supplier at least 30 calendar days in advance of the activities to be performed at the ITER Site.

Joint preparation meetings and safety regulatory procedures: in accordance with Articles R.4515-1 et seq. of the Labour Code (codifying the Decree of 26/04/1996), the delivery to ITER can only start after the constitution of a security protocol for unloading / loading, between ITER and the Contractor.

Thus, at the start of the contract and before any delivery or intervention, the Contractor will have to contact ITER ORGANISATION, in order to organize a joint safety inspection.

This meeting will allow:

- To detail and analyse each operation carried out and each place of intervention,
- Detail the necessary documents,
- Present and study the safety instructions and / or procedures,
- Define and validate the preventive measures to be observed at each phase of unloading / loading operations.

Following this joint preparation meeting, in accordance with Article R. 4515-4 of the Labour Code, an unloading / loading safety protocol will be drawn up for each identified operation, in order to prevent the risks associated with the interference between the activities, facilities and equipment of ITER and the carrier, as well as other companies that may be present in the work areas.

The safety protocols (and the prevention plan, if applicable) will be communicated to ITER. If the joint safety preliminary inspection meeting, and therefore the security protocol, was not carried out, ITER would be obliged to block deliveries until safety is guaranteed as specified.

10.1 Nuclear class Safety

"No specific safety requirement related

10.2 Seismic class

"No specific safety requirement related to PIC and/or PIA and/or PE/NPE components apply".

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11 Special Management requirements

No special management requirements in place. This contract defines the delivery of liquefied and bottled gases.

11.1 Contract Gates

- Kick-off meeting
- Joint preparation meeting

11.2 Work Monitoring

The contractor shall monitor the ordered and delivered gases. These data shall be made available to the client.

11.3 Meeting Schedule

Additional to Kick-off meeting Joint Visit meetings can be held if required.

11.4 CAD design requirements

“This contract does not imply CAD activities”

12 Appendixes

Base of estimates

Note: All these quantities are given for information only and cannot be considered as commitments of consumption by ITER.

Duration:	4 years *2 additional years optional*
Start:	01/12/2026
Total quantity of helium:	35.2 t
Average delivery frequency:	two 40ft ISO liquid containers per year

A minor part of the above-mentioned quantity of helium may be required in gaseous state and shall therefore be delivered in tube trailers if requested by ITER.