European Organization for Nuclear Research
Organisation européenne pour la recherche nucléaire

Group Code: SCE-SSC

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Price Enquiry

Technical Specification

Supply of Spare Parts, Maintenance Services, and Training for Desautel/Auca Fire Extinguishers

Abstract

This Technical Specification concerns the supply of spare parts, maintenance services, and training for CERN's existing inventory of Desautel/Auca fire extinguishers. The training shall enable the CERN Fire and Rescue Service (CFRS) firefighters to perform extinguisher maintenance across the CERN site.

Deliveries are foreseen over a five-year period from notification of the Contract, with an option to extend for additional one-year periods.

The first delivery is expected to take place by Q2 2025.

March 2025

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Terms and Definitions

Term	Definition
CERN	European Center for Nuclear Research http://cern.ch
CFRS	CERN Fire and Rescue Service
HSE	Health & Safety and Environmental Protection
ISO	International Organization for Standardization ISO - International Organization for Standardization
LHC	Large Hadron Collider
Q	Quarter
SCE	Site and Civil Engineering (SCE Group)
SSC	Service and Supply Chain (SCE-SSC Group)

1. INTRODUCTION

The Contract will be performed in accordance with the General Conditions of CERN Contracts (CERN/FC/6674-II). However, this Technical Specification prevails over the General Conditions of CERN Contracts with regard to the particular provisions specified in this document, and this without prejudice to any other provision in the General Conditions of CERN Contracts.

Capitalised terms in the body text are defined either in the General Conditions of CERN Contracts or in the present document.

1.1 Introduction to CERN

CERN, the European Organization for Nuclear Research, is an intergovernmental organization with over 30 Member States[1]. Its seat is in Geneva but its premises are located on both sides of the French-Swiss border (https://maps.web.cern.ch/). CERN's mission is to enable international collaboration in the field of high-energy particle physics research and to this end it designs, builds and operates particle accelerators and the associated experimental areas. At present, more than 10 000 scientific users from research institutes all over the world are using CERN's installations for their experiments. Further information is available on the CERN website: http://cern.ch.

The accelerator complex at CERN is a succession of machines with increasingly higher energies. Each machine injects the beam into the next one, which takes over to bring the beam to an even higher energy, and so on. The flagship of this complex is the Large Hadron Collider (LHC)

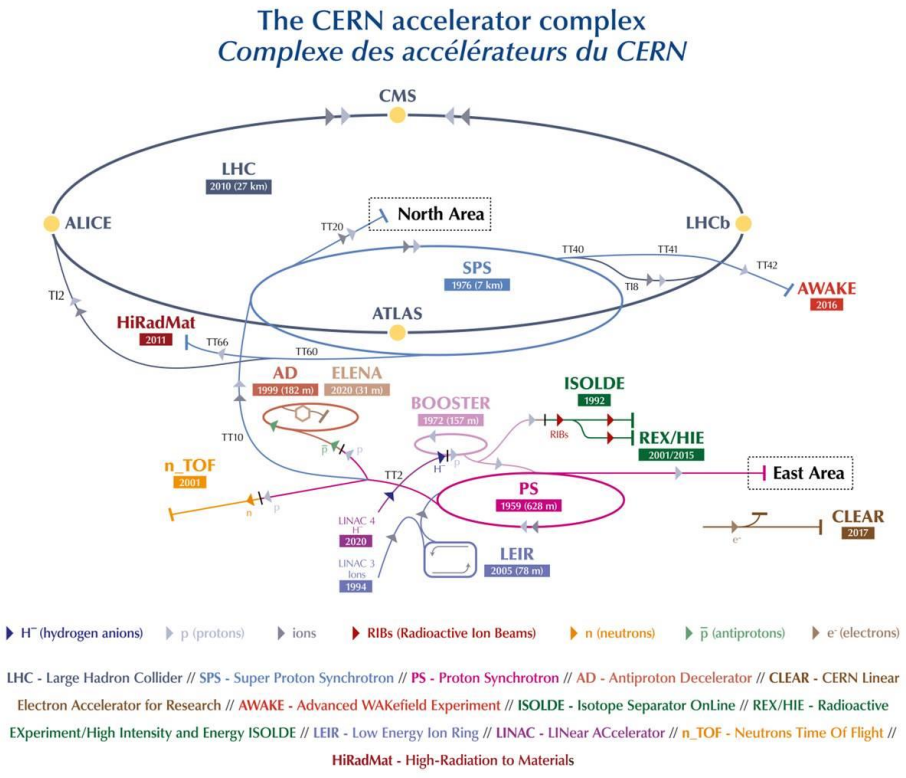

Figure 1: CERN Accelerator Complex

[1] http://home.web.cern.ch/about/member-states

1.2 Introduction to SCE and HSE Departments

1.2.1 Site and Civil Engineering Department (SCE)

The Site and Civil Engineering department (SCE) provides and maintains services related to:

- Construction of complete civil engineering structures and infrastructures from preliminary design to hand-over;
- Renovation and maintenance of the tertiary structures and infrastructures;
- Sites services (mobility, cleaning, housing) and Supply Chain services (shipping, goods reception, internal distribution, supply management, warehousing operations);
- Ensuring the security of any person entering the domains of the Organization, their properties, and the properties of the Organization.

1.2.2 Service and Supply Chain Group (SCE-SSC)

The Service and Supply Chain group (SCE-SSC) provides the CERN community with high standard campus experience and optimal industrial logistics by offering the following rationalized, efficient, and controlled services:

- Campus services including installation, cleaning, waste management, housing, catering and personnel mobility;
- Logistics operations including shipping, inbound/outbound of goods flows, mail service and chemical waste management.

1.2.3 Health, Safety and Environment Department (HSE)

The Health, Safety and Environment (HSE) department is the driving force behind CERN's Safety Policy. A corporate and preventive Safety culture is promoted. In its role as the Organization’s centre of competence in matters of Safety, the HSE department provides support to all parts of the Organization. Meeting CERN's Safety objectives requires the department to adopt a highly service oriented approach for both the radiological and conventional safety domains. Complementing its internal duties the HSE department coordinates CERN's HSE matters with the respective host states bodies. In case of emergency the CERN Fire & Rescue Service (CFRS) is on permanent duty, complemented by the CERN Medical Service. Furthermore, the CERN Medical Service takes care of all aspects of occupational health.

1.2.4 CERN Fire & Rescue Service (HSE-CFRS)

The CERN Fire and Rescue Service (CFRS) of the HSE department works to provide fire safety support and emergency first response to the CERN community but also to the surroundings in the scope of a mutual assistance agreement with CERN Host States, France and Switzerland, and more specifically with the French and Swiss local fire and rescue services. The timely delivery of these services enables CFRS to make significant contributions to the safety and business continuity of CERN. CFRS achieves this through continually reviewing its operating environment and adapting to evolving needs. Together with its partners, CFRS helps HSE make CERN a role model for safe and environmentally responsible research centres.

CERN Fire and Rescue Services is likely to be the most multinational fire and rescue service in Europe, comprising professionals from 16 different nationalities. In line with one of CERN’s main missions, the majority of CFRS staff are employed for a limited duration contract, bringing

knowledge and skills with them when they arrive and accumulating them to bring them back to their home countries and/or next duties.

2. SCOPE OF THE SUPPLY

CERN intends to place a five-year blanket purchase contract (the "Contract") for the supply of spare parts, maintenance services, and training for CERN's existing inventory of Desautel/Auca fire extinguishers, with an option to extend for additional one-year periods (in whole or in part, as the "Supply").

The successful Bidder (the "Contractor") shall perform the Contract as defined in this Technical Specification, including its annexes.

2.1 General Description

CERN currently maintains approximately 5800 Desautel/Auca fire extinguishers, including CO_2, powder, and water/foam models. These extinguishers are deployed across its buildings, vehicles, and scientific facilities and require spare parts from the Desautel/Auca brand for maintenance.

To ensure their continued functionality, CERN may procure CO_2 refilling and CO_2 pressure vessel revalidation including needed spare parts for the affected extinguishers.

CFRS firefighters will receive appropriate training to perform periodic maintenance activities, excluding the refilling of CO_2 extinguishers.

For extinguishers that cannot be serviced either on the CERN site or by CFRS firefighters, the Contractor shall provide alternative solutions either at its premises or on the CERN site. This is particularly relevant for CO_2 extinguishers, which may require pressure vessel revalidation and refilling every ten years.

2.2 Content of the Supply

The Supply that shall include:

- Technical deliverables as specified in §3:
  - Spare parts for Desautel/Auca fire extinguishers;
  - Maintenance services for Desautel/Auca fire extinguishers;
  - Training for CERN Fire and Rescue Service firefighters.
- Activities as specified in §4:
  - On the Contractor's site:
    - Maintenance services for Desautel/Auca fire extinguishers;
    - Labelling of spare parts;
    - Marking of CO_2 extinguishers;
    - Packing & shipping (if requested).
  - On CERN Site:
    - Maintenance services for Desautel/Auca fire extinguishers (if requested);
    - Training for CERN Fire and Rescue Service firefighters.
- Documentation as specified in §5:
  - Related to the Supply:
    - Technical documentation;
    - Maintenance documentation;

  - Training documentation.
- Related to the Performance of the Contract:
  - Quality plan;
  - Maintenance report;
  - Any other relevant documentation.

2.3 Equipment and Facilities Provided by CERN

CERN will provide the following equipment and facilities for the purpose of the performance of the Contract (Training):

- Audiovisual equipment;
- Fire extinguisher maintenance workshop;
- Suitable classroom or meeting room.

3. SPECIFICATION OF THE TECHNICAL DELIVERABLES

The Supply shall include the technical deliverables as specified in the present section and shall comply with the characteristics and performance requirements below as well as with the activities specified in §4.

3.1 Spare Parts for Desautel/Auca Fire Extinguishers

CERN conducts annual inspections of approximately 5800 fire extinguishers, for which the Contractor shall supply spare parts from the brand Desautel/Auca. The complete list of extinguishers and compliant spare parts from Desautel/Auca are listed in Annex 1.

3.2 Maintenance Services for Desautel/Auca Fire Extinguishers

The Contractor shall perform maintenance services for the deliverables below:

3.2.1 Refilling of CO_2 Fire Extinguishers

Refilling of five- or nine- kilogram CO_2 extinguishers with a new extinguishing agent (§4.1.1.1).

3.2.2 Revalidation of Pressure Vessel for CO_2 Fire Extinguishers

- Inspection and revalidation (§4.1.1.2) of the pressure vessels of approximately 3100 existing CO_2 fire extinguishers (five- or nine- kilogram), with the aim of extending their service life by further ten years. The extinguishers are of the brand Desautel/Auca and were manufactured between 2013 and 2025.
- Return of the extinguishers to CERN in a fully functional, ready-to-use, and operational condition, excluding re-installing the hoses, which remain CERN’s responsibility.

3.3 Training for CERN Fire and Rescue Service (CFRS) Firefighters

- The Contractor shall provide training sessions, according to specifications in §4.2.2 for CFRS personnel, a team of 48 firefighters responsible for the maintenance of fire extinguishers on the CERN site.
- Upon successful completion of each training course, participants shall be fully trained, certified, and equipped with the necessary expertise to independently perform annual maintenance at CERN.

- The training shall cover comprehensive knowledge of methods, processes, and specific requirements for maintaining Desautel/Auca portable fire extinguishers.
- The Contractor shall provide a corresponding training program to be approved in writing by CERN in advance of each training session.

The Contractor shall be responsible for:

- Conducting annual training sessions for new CERN firefighters on-site, covering all aspects of inspections and maintenance of Desautel/Auca fire extinguishers, including Desautel/Auca spare parts installation and monitoring, to ensure participants acquire the necessary skills and knowledge.
- Providing a written certification upon successful completion of the training, confirming the participants' qualifications to inspect, maintain, and service the Desautel/Auca fire extinguishers used at CERN.

4. SPECIFICATION OF THE ACTIVITIES

The Supply shall include the activities listed in the present section and shall comply with the requirements as specified below.

4.1 Activities on the Contractor's Premises

During the Contract, CERN shall have free access, during normal working hours, to the Contractor's premises, including manufacturing and assembly sites and Subcontractor's premises. The change of manufacturing place is subject to prior written approval by CERN.

4.1.1 Maintenance Services for Desautel/Auca Fire Extinguishers

The Contractor shall carry out all maintenance services, as specified below:

4.1.1.1 Refilling of CO_2 fire extinguishers

- Upon CERN's request, refill CO_2 extinguishers (five- or nine- kilogram) with a new extinguishing agent (e.g., after a fire);
- Ensure extinguishers are refilled and restored to operational condition upon return to CERN, excluding re-installing the hoses, which remain CERN's responsibility;
- Organize transport to and from CERN, while using CERN transport frames if needed, and follow manufacturer's instructions for safe handling (§4.1.4).

4.1.1.2 Revalidation of pressure vessel for CO_2 fire extinguishers

- Performance of the ten-year pressure vessel inspection of approximately 3100 extinguishers (five or nine kg CO_2);
- Periodic inspections;
- Refill of extinguishers;
- Replacement of spare parts and components as deemed necessary;
- Supply and installation of all necessary spare parts, including hose and actuator replacement if required by the manufacturer or inspection results;
- Renewal of labelling and markings for serviced extinguishers (§4.1.3);
- Ensure serviced extinguishers are fully functional and ready to use, excluding hose fittings, which remain CERN's responsibility;
- Use adequate and compliant equipment and facilities, including:

  - Tooling;
  - Pressurization and extinguishing agent refilling equipment;
  - Tank handling equipment;
  - Warehousing capacity to securely store extinguishers before and after service.
- Organize transport to and from CERN (§4.1.4), while using CERN transport frames if needed, following:
  - Manufacturer's instructions;
  - Delivery and intervention schedules (§7.2).
- Notify CERN immediately of any changes affecting the extinguishers or their components (including suspension or carrying devices), and provide compliant replacements, if required;
- Offer exchange of collected extinguishers with similar extinguishers that meet the technical specifications of those collected from CERN.

4.1.2 Labelling of Spare Parts

Each spare part shall be labelled either directly on the part or on its packaging. The labelling shall be clear, visible, and written in English and/or French. If applicable, the expiration date shall be included.

Additionally, the label shall clearly specify the fire extinguisher model for which the spare part is intended.

4.1.3 Marking of CO_2 Extinguishers

The marking of revalidated and refilled CO_2 fire extinguishers shall be permanent, clear, and visible, in compliance with the EN3 standard and its subcategories. The instruction label shall be provided in both French and English and shall be photoluminescent.

4.1.4 Packing and Shipping

For any transports, the Contractor shall take up a dedicated all-risk transport insurance for the Supply concerned, and in accordance with the provisions of DAP Incoterms 2020 conditions, Prévessin (FR).

In all cases, the Contractor shall comply with the packing and shipping instructions available under:

https://procurement.web.cern.ch/system/files/document/packing-and-shipping-instructions_0.pdf

and, in particular, ensure that the Supply is packed in a way that guarantees the absence of any contamination and that no damage or any possible deterioration in performance due to transport conditions can occur.

4.1.4.1 Spare parts

The Contractor shall be responsible for both the packing and shipping of the spare parts according to conditions mentioned in §4.1.4.

4.1.4.2 Serviced CO_2 extinguishers

In the event that CERN requires maintenance services for CO_2 fire extinguishers, the Contractor shall be responsible for ensuring proper packing and safe transportation from and to CERN.

CERN will be responsible for:

- Preparing the CO_2 fire extinguishers for pick-up by the Contractor, placing them in their dedicated support cases (CERN property) and ensuring compliance with the Contractor’s instructions. The extinguishers can be shipped using dedicated transport supports or pallets, which can be moved with forklifts.

- Providing additional details on the transport supports, upon request, to assist the Contractor in preparing the packing instructions.

The Contractor shall be responsible for:

- The transport of extinguishers to and from CERN, including any necessary transport frames in accordance with the manufacturer's instructions, as well as the packing, delivery, and return of extinguishers and their support cases, in line with the delivery and intervention schedules (§7.2).
- Determining and confirming the specific transport preparations required, including whether the extinguishers shall be full or empty, and whether hoses shall be attached, disconnected, or excluded from delivery.
- Handling all necessary documentation and transport formalities;

4.2 Activities on the CERN site

The Contractor shall perform its activities on the CERN site in accordance with §7.6.

4.2.1 Maintenance Services for Desautel/Auca Fire Extinguishers (if requested)

The Contractor may be requested to provide maintenance service on the French part of the CERN site, particularly after an incident where a bigger amount of fire extinguishers manufactured by Desautel/Auca was used.

4.2.2 Training for CERN Fire and Rescue Service (CFRS) Firefighters

The Contractor shall provide training sessions to the CFRS firefighters on the French part of the CERN site according to indications below:

- The training instructor shall be able to communicate in both languages, English and French;
- Each training group will consist of 1-12 participants;
- The training instructor shall familiarise himself/herself with, and comply with the CERN safety rules, as specified in §6.1 in force during each training session and specifically related to mechanical equipment, standard pressure equipment, works and services;
- The duration and number of training sessions will be determined based on the specific needs and requirements, in line with the agreed-upon training program;
- All training material and/or manuals shall be provided in both the English and French;
- Training equipment and facilities will be provided according to indications in §2.3.

5. SPECIFICATION OF THE DOCUMENTATION

The Supply shall include the documentation related to the Supply (§5.1) and the documentation related to the performance of the Contract (§5.2). This documentation shall comply with the requirements specified below:

5.1 Documentation Related to the Supply

The documentation related to the Supply shall include:

- Technical documentation;
- Maintenance documentation;
- Training documentation;
- Any other relevant documentation of interest for CERN.

5.1.1 Technical Documentation

The Contractor shall submit technical documentations including:

- Spare parts datasheets with any relevant information including but not limited to dimensions, materials, part numbers, manufacturer details, etc.;
- Instruction manual or guideline from the manufacturer for the replacement or installation of spare parts;
- EC/EU declaration of conformity;
- Any other relevant documentation of interest for CERN.

CERN will give its approval or rejection, in writing, following the receipt of this documentation. Manufacturing and delivery of release orders placed within the contract shall not start without CERN's written and prior approval.

5.1.2 Maintenance Documentation

The Contractor shall submit maintenance documentation including:

- Inspection procedure and method documentations for Desautel/Auca extinguishers;
- Tank refill procedure and method documentation for Desautel/Auca extinguishers;
- Manufacturer guidelines for Desautel/Auca extinguishers.

5.1.3 Training Documentation

The Contractor shall submit training documentations including:

- Training schedule;
- Training content;
- Training material;
- Any other relevant documentation of interest for CERN.

5.2 Documentation related to the Performance of the Contract

The Contractor shall submit documentation related to the performance of the Contract including:

- Quality plan;
- Maintenance report;
- Any other relevant documentation of interest for CERN.

5.2.1 Quality Plan

The Contractor shall submit a quality plan in accordance with the delivery and onsite intervention schedule defined in §7.2 and shall provide the following information:

- Written description of the quality controls process and methods the Contractor intends to implement during whole duration of the Contract to ensure compliance of the Supply with all requirements included in this Technical Specification;
- Certificate(s) for Procedure Qualification Record (such as pressuring, welding or coating if necessary);
- Test report which includes, but are not limited to, pressure, mechanical, and visual inspections, as well as any other relevant evaluations, conducted on sample units as part of the quality assurance system. These tests shall be repeated whenever changes to materials, design, or manufacturing processes may affect the performance of the Supply.
- Any other relevant documentation of interest for CERN.

The Contractor shall deliver to CERN certificates and test results, from accredited laboratories, demonstrating compliance with the required tests and norms. In the event of a second unsuccessful test, CERN reserves the right to terminate the Contract in whole or in part.

5.2.2 Maintenance Report

CO_2 Refilling and pressure vessel revalidation conformity and reports

The Contractor shall submit maintenance reports including:

- Written confirmation from authorization party for pressure vessel revalidation and CO_2 refilling process conformity;
- Intervention report including but not limited to:
  - CERN order reference;
  - Date of the activity;
  - Extinguisher reference numbers;
  - Extinguisher type;
  - Action performed (controls, replacement of spare).
- Any other relevant documentation of interest for CERN.

5.3 Creation, Updating and Control of Documents

The Contractor shall apply professional standards and codes in matters of document editing, design/drawing process, design reviews and approval, naming conventions and tagging, quality assurance/control.

The full documentation supplied in the framework of the Contract shall be in English and/or French.

- Datasheets, drawings in PDF format;
- Text documents in Microsoft Word® and PDF format;
- Cost breakdowns, equipment and maintenance report in Microsoft Excel® and PDF format;
- Schedule in Microsoft Excel® or Word®, and PDF format.

6. APPLICABLE RULES, NORMS AND STANDARDS

The Supply shall comply with Laws. For the purpose of the Contract, Laws shall include all relevant rules, norms and standards and, and in particular:

6.1 Rules

- CERN Safety rules, available under: http://cern.ch/safety-rules in force during each activity and specifically related to mechanical equipment, standard pressure equipment, works and services;
- Swiss, European and French rules. If there is a conflict of rules, CERN will decide under which rules to interpret the situation.

6.2 Norms and Standards

- ISO 9001:2008 or equivalent;
- Relevant EU standards: SN EN 3 (portable fire extinguishers) in force in Europe and more specifically with the following ones:

- EN 3-7:2007 (Characteristics, performance requirements, and test methods);
- EN 3-8:2021 (Additional requirements to EN 3-7 for the construction, resistance to pressure and mechanical tests for extinguishers with a maximum allowable pressure equal to or lower than 30 bar);
- EN 3-9:2007 (Additional requirements to EN 3-7 for pressure resistance of CO_2 extinguishers);
- EN 3-10:2010 (Provisions for evaluating the conformity of a portable fire extinguisher to EN 3-7).

7. PERFORMANCE OF THE CONTRACT

7.1 Release Orders and Confirmation

CERN will issue release orders for the Supply with indications of type, price, quantity, date of delivery and delivery location.

The Contractor is required to provide:

- Written confirmation within two working days after reception of each release order to: stores-replenishment-pool1@cern.ch;
- Indications of expected delivery date.

7.1.1 Delivery Location

The Supply shall be delivered to the CERN French site, and its address shall be stated on each order.

CERN PREVESSIN SITE
Route de l'Europe
Building 904
F-01630 PREVESSIN

Please refer to the link below for opening hours: https://sce-dep.web.cern.ch/node/251.

7.2 Delivery and Onsite Intervention Schedules

The Contractor shall deliver the Supply or intervene on site in accordance with the following schedule, starting from the notification of award of the Contract to the Contractor:

Description	Lead time after notification (in working days)	Maintenance/training maximum lead time (in working days)
Delivery of spare parts *(1 to 300 units)*	10	
Delivery of test reports after maintenance	5	
Maintenance at Contractor premises	5	50
Maintenance at CERN site	5	3
Delivery of maintenance report	5	
Training at CERN site	20	1

7.3 Contractor's Personnel

The Contractor shall assign an appropriate number of qualified personnel for the performance of the Contract. The personnel assigned by the Contractor shall at all times remain under the sole direction and responsibility of the Contractor.

If requested by CERN, the Contractor shall replace, with immediate effect, any member of its personnel assigned to the Contract whose conduct or whose administrative situation affects or threatens to affect the proper performance of the Contract or any other activities on the CERN site.

The Contractor shall, at its own expense, ensure that its personnel assigned to the Contract has suitable training to comply with the requirements of the Contract.

Furthermore, before the start of the Contractor's activities on the CERN site, the Contractor shall ensure that its personnel have completed the specific training CERN deems necessary. The CERN site specific training will be provided by CERN.

7.4 Contract Follow-Up and Progress Monitoring

The Contractor shall assign a person in charge of the technical execution of the Contract and its follow-up, as well as a person in charge of the commercial follow-up, during the whole duration of the Contract. These persons shall be able to communicate in, at least, one of the official languages of CERN (English and/or French).

7.5 Maintenance Report

After each intervention, the Contractor shall submit to CERN an activity report in accordance with the indications in §5.2.2 and schedule defined in §7.2.

7.6 Working on the CERN Site

For any intervention on the CERN site, the Contractor shall take into account and implement the rules and provisions defined in the document *Working on the CERN Site* available under: https://procurement.web.cern.ch/document-category/key-reference-documents.

7.6.1 Location of the Activities

The Contract will be performed on the French part of the CERN site.

7.6.2 Safety Requirements Related to the Activities on the CERN Site

Activities shall comply with the requirements of the safety-related documents mentioned in §6 in force at the time of the activity.

7.7 Acceptance of the Supply by CERN

The Contractor shall submit the Technical Documentation to CERN for acceptance, as specified in §5 and in accordance with the schedule defined in §7.2.

CERN personnel, having received proper training provided by the Contractor, will inspect the spare parts and the potential serviced CO_2 extinguishers on CERN site.

Acceptance of the Supply will be subject to the successful completion of the following controls by CERN:

- Visual Examination: Any deformations or visible damage, including the cylinder, hose, and handle/valve;
- Mechanical Checks: Verify that all components of the spare parts are correct;
- Weight and Valve Assurance: Ensure that valves are unobstructed and that the weight is maintained at the recommended level.

Any failure detected in one of the acceptance tests carried out at CERN in accordance with its requirements may lead to the termination of the contract.

7.8 Warranty

The warranty period starts from the date of acceptance and shall comply with the indications below:

- Spare parts: According to §6 or minimum two years;
- Maintenance on extinguishers: According to §6 or minimum two years.

7.9 Supply Discontinuation

The Contractor shall inform CERN immediately in case any deliverable part of the Supply is to be discontinued. The Contractor shall provide an alternative solution to CERN. CERN reserves the right to reject the alternative solution.

8. CERN REPRESENTATIVES

All administrative, commercial, and technical correspondence concerning the Price Enquiry shall be communicated to the CERN Procurement Officer and in copy to the Technical Officer. Any communication by or to any other person than the CERN Procurement Officer / Service shall not be valid and have no effect.

Procurement Officer	**Tel**	**Email**
Merethe Olafsen	Tel: +41 22 767 8568	merethe.olafsen@cern.ch
In case of absence:		
Simon Guerri Dall'Oro	Tel: +41 22 766 5691	simon.guerridalloro@cern.ch
Technical Officer	**Tel**	**Email**
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In case of absence:		
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9. ANNEXES

9.1 Annex 1: List of Desautel/Auca Extinguishers and Desautel/Auca Spare Parts

9.2 Annex 2: Price Table