

Technical Specifications (In-Cash Procurement)

Framework Contract for electrical and lightning protection works (minor electrical works)

This technical specification aims to set up a framework contract in order to support the EPD for the execution of electrical and lightning protection works



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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

Many EPD systems and equipment are in operation or in commissioning. This context involves modifications and minor corrections to improve the operability of the networks/installations, to comply with the Electrical French regulation or to address missing items.

EPD is also responsible for the operation and maintenance of some temporary networks which must be modified in respect to the project's needs and constraints.

This technical specification aims to set up a Framework Contract.

3 Acronyms & Definitions

3.1 Acronyms

A list of ITER abbreviations used throughout the ITER Project can be found at IDM: <https://user.iter.org/?uid=2MU6W5>

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

Abbreviation	Description
CRO	Contract Responsible Officer
GM3S	General Management Specification for Service and Supply
IO	ITER Organization
PRO	Procurement Responsible Officer

3.2 Definitions

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



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	PGC Annex 0	42FYPZ	2.0
3	ITER internal regulation	27WDZW	3.1
4	ITER Site Development Plan	UYRHXX	23

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
CS1	Decree 2010-1017 obligation of the contracting authority
CS2	Decree 2010-1016 obligation of the employers
CS3	Decree 2010-1118 operation on (or in the vicinity) an electrical installation and the authorization
CS4	Decree 2010-1018 various provisions relating to the prevention of electrical hazard in workplace
CS5	NFC 13200 : HV Electrical Standard
CS6	NFC 15100 : LV Electrical Standard
CS7	NFEN 62305-1 (2012) : Protection against lightning – part 1: general principles
CS8	NFEN 62305-2 (2012) :: Protection against lightning – part 2: Risk evaluation.



CS9	NFEN 62305-3 (2012):: Protection against lightning – part 3: Physical damage to structures and life hazard.
CS10	NFEN 62305-4 (2012):: Protection against lightning - part 4: Electrical and electronic systems within structures.
CS11	NFEN62561 serie 1-7 (2016-2017): Lightning Protection Components (LPC).
CS12	NFEN 61643-11 (2014): Low-voltage surge protective devices - Part 11 : surge protective devices connected to low-voltage power systems - requirements and test methods.
CS13	CLC/TS 61643-12 (2009): Low-voltage surge protective devices - Part 12 : surge protective devices connected to low-voltage power distribution systems - Selection and application principles
CS14	NFEN 61643-21 and A1/A2 (2001-2009/2013): Low voltage surge protective devices - Part 21 : surge protective devices connected to telecommunications and signalling networks - Performance requirements and testing methods
CS15	CLC TS 61643-22 (2016): Low-voltage surge protective devices - Part 22 : surge protective devices connected to telecommunications and signalling networks - Selection and application principles.

5 Scope of Work

This section defines the specific scope of work for the service, in addition to the contract execution requirement as defined in Ref [1].

5.1 Responsibilities

The Contractor's performance shall include all supplies and services necessary for the Works (equipment, specialized tools, qualified labor, energy, diesel supply, transportation and various handling, detailed construction designs, and drawings, project organization, etc.).

All the document or component shall be validated by IO before any order or execution works.

Responsibilities:

The responsibilities between the Parties are summarized in Table 1 (below) and is further detailed in the following sections.

Activity	IO	Supplier
A-Design-supplies		
Requirement	R	A
Design (if requested)	A	R
Supplies of the material and delivery	A	R
B-Site works		
Permit to work *	R	R/A



Site installation works	A	R
C-Final acceptance		
Regulatory inspection (if necessary)	R	////
As-built (if requested)	A	R
Final Acceptance	A	A

Table 1 Summary of the Responsibilities between the IO and the Supplier

R = Responsible for organizing, performing and for the content

A = Review/Comment/Accept/Approve

NA=Not Applicable

*In first intention, the Work permit will be requested by IO, however in some circumstances the permit to work can be requested by the company.

5.2 Execution Works

The contractor will be responsible for the execution of electrical and lightning protection works. The material and means necessary for the perfect finishing of the works are in the scope of the contractor. In some case the contractor might be requested to prepare study, drawing and various document.

The company must provide a bill of price (5.2.1) and propose a price for the scenarios (refer to the relevant Instruction to Tenderer).

Due the nature of the works to be performed, the company must be able to intervene on ITER site within 8 hours (urgent repair for example). The company must have a workshop within a radius of 20km from the ITER site. The company must have the necessary tools and equipment to carry out the works (cable winch, rollers, drilling machine, mobile scaffold, individual rolling platform (PIRL), fiber optics welding machine etc). All the equipment and tools must be in good condition. If they are subjected to regulatory inspection, a valid regulatory verification report must be provided.

The company shall have a perfect knowledge of the French Electrical regulation (labor code) and of the related Standards. The works performed by the company must be compliant with the French electrical regulation and standards.

IO requires some mandatory certifications:

1- The Qualifoudre Certification (level "installation works" at least)

2- Company's personnels must have the CATEC certification.



3- The personnel who will prepare HVA terminations and HVA junction boxes must be certified in respect to the referential PRDE G.5.2-01 and 02.

4- The personnel who will weld or test the optical fiber must have the relevant certification.

5.2.1 Works to be performed under the Contract

Item	Description	Unit		Notes-Rule
1-Workforce and Man-hour for works under cost control				applicable rates when the works do not fit the bill of price below. The supplier will have to propose a quotation taking into account the present rates and the price of the material (quote from supplier to be provided). If CATEC intervention is required the unit price will have to be added to the quotation.
1.1	qualified electrician	hour		
1.2	Team leader	hour		
1.3	designer	hour		
over cost for special working hour				
1.5	night	%		
1.6	Saturday	%		
1.7	public holiday	%		
1.8	CATEC intervention	Unit		
2-Study-Drawing-Documents				
2.1	Low Voltage Caneco calculation note	per circuit		The calculation note shall be executed with the last version of caneco. The calculation note shall includes the electrical sources and HV SCC, those information will be provided by IO.
2.2	modification of a drawing (dwg)	per sheet		dwg or pdf source file provided by IO
2.3	creation of a drawing (dwg)	per sheet		drawing to be provided in dwg and pdf format
2.4	redaction of a lightning maintenance manual	Unit		This regulatory document must be redacted by a company certified QUAIFOUDRE. It includes a 1 day of site survey and the synthesis of information and other documents provided by IO. Those documents are in general as built informations delivered by several companies (tender batches) working for F4E.
2.5	site survey	hour		in order to prepare the task in section 2



2.6	review of a legal inspection report and proposal of solution and associated costs	Unit		<i>This item aims to propose the technical solution when electrical non conformity are raised by a legal inspection office. The associated cost must be based on the present Bill of Price.</i>
3-CABLES and ACCESSORIES-Fiber Optic-Ethernet				<i>price per ml installed. Price includes the supply, installation, connections and accessories e.g terminals, bolt, washers, cable ties, collars, cable glands.</i>
3.1	H07RNF 3G			
3.1.1	1.5mm ²	ml		
3.1.2	2.5mm ²	ml		
3.1.3	4mm ²	ml		
3.1.4	6mm ²	ml		
3.1.5	10mm ²	ml		
3.1.6	16mm ²	ml		
3.1.7	25mm ²	ml		
3.1.8	35mm ²	ml		
3.1.9	50mm ²	ml		
3.2	H07RNF 4G			
3.2.1	1.5mm ²	ml		
3.2.2	2.5mm ²	ml		
3.2.3	4mm ²	ml		
3.2.4	6mm ²	ml		
3.2.5	10mm ²	ml		
3.2.6	16mm ²	ml		
3.2.7	25mm ²	ml		
3.2.8	35mm ²	ml		
3.2.9	50mm ²	ml		
3.3	H07RNF 5G			
3.3.1	1.5mm ²	ml		
3.3.2	2.5mm ²	ml		
3.3.3	4mm ²	ml		
3.3.4	6mm ²	ml		
3.3.5	10mm ²	ml		
3.3.6	16mm ²	ml		
3.3.7	25mm ²	ml		
3.3.8	35mm ²	ml		
3.3.9	50mm ²	ml		
3.4	U1000R2V 3G			
3.4.1	1.5mm ²	ml		
3.4.2	2.5mm ²	ml		
3.4.3	4mm ²	ml		
3.4.4	6mm ²	ml		
3.4.5	10mm ²	ml		
3.4.6	16mm ²	ml		
3.4.7	25mm ²	ml		
3.5	U1000R2V 4G			



3.5.1	1.5mm ²	ml
3.5.2	2.5mm ²	ml
3.5.3	4mm ²	ml
3.5.4	6mm ²	ml
3.5.5	10mm ²	ml
3.5.6	16mm ²	ml
3.5.7	25mm ²	ml
3.5.8	35mm ²	ml
3.5.9	50mm ²	ml
3.6	U1000R2V 5G	
3.6.1	1.5mm ²	ml
3.6.2	2.5mm ²	ml
3.6.3	4mm ²	ml
3.6.4	6mm ²	ml
3.6.5	10mm ²	ml
3.6.6	16mm ²	ml
3.6.7	25mm ²	ml
3.6.8	35mm ²	ml
3.6.9	50mm ²	ml
3.7	U1000RVFV 7G	
3.7.1	1.5mm ²	ml
3.7.2	2.5mm ²	ml
3.8	U1000RVFV 12G	
3.8.1	1.5mm ²	ml
3.8.2	2.5mm ²	ml
3.9	U1000RVFV 19G	
3.9.1	1.5mm ²	ml
3.9.2	2.5mm ²	ml
3.10	U1000RVFV 27G	
3.10.1	1.5mm ²	ml
3.10.2	2.5mm ²	ml
3.11	U1000R2V 1X	
3.11.1	25mm ²	ml
3.11.2	35mm ²	ml
3.11.3	50mm ²	ml
3.12	H07-VK 1X (for internal wiring)	
3.12.1	1.5mm ²	ml
3.12.2	2.5mm ²	ml
3.12.3	4mm ²	ml
3.12.4	6mm ²	ml
3.12.5	10mm ²	ml
3.12.6	16mm ²	ml
3.12.7	25mm ²	ml
3.12.8	35mm ²	ml
3.12.9	50mm ²	ml
3.13	H07-VU 1X (yellow/green)	



3.13.1	1.5mm ²	ml		
3.13.2	2.5mm ²	ml		
3.13.3	4mm ²	ml		
3.13.4	6mm ²	ml		
3.13.5	10mm ²	ml		
3.13.6	16mm ²	ml		
3.13.7	25mm ²	ml		
3.13.8	35mm ²	ml		
3.13.9	50mm ²	ml		
3.14	Bare copper cable 1X			
3.14.1	25mm ²	ml		
3.14.2	35mm ²	ml		
3.14.3	50mm ²	ml		
3.14.4	75mm ²	ml		
3.14.5	120mm ²	ml		
3.16	U1000AR2V 3G			
3.16.1	25mm ²	ml		
3.16.2	35mm ²	ml		
3.16.3	50mm ²	ml		
3.17	U1000AR2V 4G			
3.17.1	25mm ²	ml		
3.17.2	35mm ²	ml		
3.17.3	50mm ²	ml		
3.18	U1000AR2V 5G			
3.18.1	25mm ²	ml		
3.18.2	35mm ²	ml		
3.18.3	50mm ²	ml		
3.19	Fiber Optic		Price includes the supply, installation, fusions at the extremities, reflectometry test based on ISO/IEC 14763-3/A1	
3.19.1	Single-mode 4 strand 9/125µm	ml		
3.19.2	Single-mode 6 strand 9/125µm	ml		
3.19.3	Single-mode 8 strand 9/125µm	ml		
3.19.4	single-mode 12 strand 9/125µm	ml		
3.19.5	Multi-mode 4 strands 50/125µm	ml		
3.19.6	Multi-mode 6 strands 50/125µm	ml		
3.19.7	Multi-mode 8 strands 50/125µm	ml		
3.19.8	Multi-mode 12 strands 50/125µm	ml		
3.19.9	LC connector	unit		
3.19.10	ST connector	unit		
3.19.11	MPT connector	unit		
3.20	Ethernet		Price includes the supply, installation and connector at the extremities	
3.20.1	Cable S/FTP cat 6 (250MHz), 8 wires 0.25mm ²	ml		
3.20.2	Cable S/FTP cat 6a (500MHz), 8 wires 0.25mm ²	ml		
3.21	HV CABLES (NFC 33-226) and accessories		Price includes the supply, installation. Concerning the accessories unit price is for a	
3.21.1	3x1x50mm ² Aluminium	ml		
3.21.2	3x1x95mm ² Aluminium	ml		



3.21.3	3x1x240mm ² Aluminium	ml		set of 3 termination and connector. All the accessories are included (electrical lugs, copper braids for screen connection).
3.21.4	termination kit 3M termination E3UIC RF-24-50-240 (24kV)	unit		
3.21.5	termination kit SICAME E3UIC RF-RSM-50-240 AL/CU (24kV)	unit		
3.21.6	Separable connector 250A A interface	unit		
3.21.7	Separable connector 400A B interface	unit		
3.21.8	Separable connector from 630A C interface	unit		
3.21.9	junction box 3UP-RF-RSM-24-50/240 Al/Cu	unit		
3.21.10	Junction box SICAME JUPRF RSM 24 50 240 X	unit		
4-Direct Lightning protection				Prices must include the supply, installation and connections. Qualifoudre certification is mandatory.
4.1	50mm ² aluminium round conductor (compliant with NFEN 62561) DEHN 840018	ml		
4.2	flat copper strip 30x2mm (compliant with NFEN 62561) DEHN 831302	ml		
4.3	concrete base DEHN253015	unit		
4.4	aluminium braid DEHN 377015	unit		
4.5	copper braid DEHN 377007	unit		
4.6	conductor holder DEHN 207019	unit		
4.7	conductor holder DEHN 274110	unit		
4.8	MV clamp 8-10mm DEHN 390559	unit		
4.9	MV clamp 8-10mm DEHN 390550	unit		
4.10	MV clamp 8-10mm/16mm DEHN 392059	unit		
4.11	KS clamp 6-10mm DEHN 301009	unit		
4.12	universal junction clamp DEHN 315119	unit		
4.13	junction clamp for round conductor DEHN 319209	unit		
4.14	junction clamp for flat conductor DEHN 319229	unit		
4.15	junction copper clamp for flat conductor DEHN 321047	unit		
4.16	Extension clamp DEHN 385213	unit		
4.17	clamp for steel beam 3-18mm DEHN 372119	unit		
4.18	clamp for steel beam 18-35mm DEHN 372149	unit		
4.19	clip DEHN 377009	unit		
4.20	200kA KS clamp DEHN 301209	unit		
4.21	200kA MV clamp DEHN 390209	unit		
4.22	200kA MV clamp for rods DEHN 392209	unit		
4.23	200kA UNI clamp DEHN 459219	unit		



4.24	3m long Spacer DEHN 253310	unit
4.25	conductor holder DEHN 253302	unit
4.26	baseplate DEHN 253300	unit
4.27	insulated pin with MMV clamp DEHN 106150	unit
4.28	isolator 1030mm DEHN 106228	unit
4.29	isolator 690mm DEHN 106226	unit
4.30	isolator 530mm DEHN 106225	unit
4.31	1.5m Al 10-16mm rod DEHN 103210	unit
4.32	3m Al 10-16mm rod DEHN 103240	unit
4.33	6m Al 16mm rod DEHN 104600 (to be cut)	unit
4.34	3m rod with tripod DEHN 105530	unit
4.35	4m rod with tripod DEHN 105400	unit
4.36	5m rod with tripod DEHN 105500	unit
4.37	5.5m rod with tripod DEHN 105550	unit
4.38	6m rod with tripod DEHN 105600	unit
4.39	7m rod with tripod DEHN 105700	unit
4.40	concrete base 337mm DEHN 102010	unit
4.41	plastic plate 370mm DEHN 102050	unit
4.42	4m rod 40mm DEHN 105170	unit
4.43	5m rod 40mm DEHN 105171	unit
4.44	4m rod 40mm DEHN 105172	unit
4.45	4m rod 40mm DEHN 105173	unit
4.46	support for 40mm rod DEHN 105140	unit
4.47	support for 40mm rod DEHN 105342	unit
4.48	support for 40mm rod DEHN 105348	unit
4.49	support for 40mm rod DEHN 105344	unit
4.50	support for 40mm rod DEHN 105347	unit
4.51	support for 40mm rod/round DEHN 105354	unit
4.52	support for 40mm rod/round DEHN 105162	unit
4.53	support for 40mm rod/round DEHN 105160	unit
4.54	collar DEHN 540105	unit
4.55	collar DEHN 540200	unit
4.56	collar DEHN 540104	unit
4.57	collar DEHN 540100	unit
4.58	collar DEHN 540103	unit
4.59	earthing post 1m DEHN 625101	unit



4.60	extremity for earthing post DEHN 625001	unit	
4.61	clamp for earthing post DEHN 610010	unit	
4.62	Copper equipotentiality busbar 6 holes DEHN 472207	unit	
4.63	Copper equipotentiality busbar 8 holes DEHN 472227	unit	
4.64	Copper equipotentiality busbar 12 holes DEHN 472237	unit	
4.65	Exothermic weldings	unit	
5-Conduit-duct-cable tray			Prices must include the supply, installation and the accessories (supports, splint, ankle, screws, bolts, washers, holes, elbow, turn). 1 support each 2m. Sizes may vary from +/-20% depending of the manufacturer
5.1	Metallic		
5.1.1	metallic-perforated cable tray (metallic) 27x75mm	ml	
5.1.2	metallic-perforated cable tray (metallic) 27x123mm	ml	
5.1.3	metallic-perforated cable tray (metallic) 27x195mm	ml	
5.1.4	metallic-perforated cable tray (metallic) 27x316mm	ml	
5.1.5	metallic-perforated cable tray (metallic) 27x412mm	ml	
5.1.6	metallic-perforated cable tray (metallic) 51x75mm	ml	
5.1.7	metallic-perforated cable tray (metallic) 51x123mm	ml	
5.1.8	metallic-perforated cable tray (metallic) 51x195mm	ml	
5.1.9	metallic-perforated cable tray (metallic) 51x316mm	ml	
5.1.10	metallic-perforated cable tray (metallic) 51x412mm	ml	
5.1.11	metallic cover 75mm	ml	
5.1.12	metallic cover 123mm	ml	
5.1.13	metallic cover 195mm	ml	
5.1.14	metallic cover 316mm	ml	
5.1.15	metallic cover 412mm	ml	
5.1.16	metallic cable ladder 100x200mm	ml	
5.1.17	metallic cable ladder 100x300mm	ml	
5.1.18	metallic cable ladder 100x400mm	ml	
5.1.19	metallic cable ladder 100x500mm	ml	
5.1.20	metallic cover for cable ladder 200mm	ml	
5.1.21	metallic cover for cable ladder 300mm	ml	
5.1.22	metallic cover for cable ladder 400mm	ml	
5.1.23	metallic cover for cable ladder 500mm	ml	
5.1.24	metallic trunk 100x100mm	ml	



5.1.25	metallic cover 100mm	ml		
5.1.26	MRL tube D20mm	ml		
5.1.27	MRL tube D25mm	ml		
5.1.28	MRL tube D32mm	ml		
5.1.29	MRL tube D40mm	ml		
5.1.30	capri flexible steel duct 11mm	ml		
5.1.31	capri flexible steel duct 13mm	ml		
5.1.32	capri flexible steel duct 16mm	ml		
5.1.33	capri flexible steel duct 21mm	ml		
5.2	Plastic-PVC-Polypropylene-polymer			Prices must include the supply, installation and the accessories (supports, plugs, splint, clip, ankle, screws, washers, bolts, holes, elbow, turn). Trunk comprises the bottom and a cover. Sizes may vary from +/-20% depending of the manufacturer. Trunks are white, ducts and tubes are grey except if the color is indicated in the table.
5.2.1	1 compartment Trunk 40x40mm	ml		
5.2.2	1 compartment Trunk 60x40mm	ml		
5.2.3	1 compartment Trunk 80x60mm	ml		
5.2.4	1 compartment Trunk 100x60mm	ml		
5.2.5	1 compartment Trunk 150x60mm	ml		
5.2.6	1 compartment Trunk 200x80mm	ml		
5.2.7	2 compartment Trunk 100x60mm	ml		
5.2.8	2 compartment Trunk 150x60mm	ml		
5.2.9	2 compartment Trunk 200x60mm	ml		
5.2.10	ICTA flexible duct 16mm	ml		
5.2.11	ICTA flexible duct 20mm	ml		
5.2.12	ICTA flexible duct 25mm	ml		
5.2.13	ICTA flexible duct 32mm	ml		
5.2.14	ICTA flexible duct 40mm	ml		
5.2.15	TPC Duct (red or green) 40mm	ml		
5.2.16	TPC Duct (red or green) 63mm	ml		
5.2.17	TPC Duct (red or green) 90mm	ml		
5.2.18	TPC Duct (red or green) 110mm	ml		
5.2.19	IRL tube 16mm	ml		
5.2.20	IRL tube 20mm	ml		
5.2.21	IRL tube 25mm	ml		
5.2.22	IRL tube 32mm	ml		
5.2.23	IRL tube 40mm	ml		
6-Electrical boards-Junction box				Price includes the supply, installation (fixation-commissioning) and necessary accessories (solid door with 405 lock, internal chassis, earthing busbar, internal trunk, rail, hole, ankle, screw, bolt, washer).
6.1	metallic enclosure			
6.1.1	IP66-IK10 H300xL300XP200	unit		
6.1.2	IP66-IK10 H400xL300XP200	unit		
6.1.3	IP66-IK10 H500xL400XP250	unit		
6.1.4	IP66-IK10 H600xL400XP250	unit		
6.1.5	IP66-IK10 H800xL600XP300	unit		
6.1.6	IP66-IK10 H1000xL800XP300	unit		
6.1.7	IP66-IK10 H1200xL800XP400	unit		
6.1.8	IP66-IK10 Junction box (with terminal bloc) 150x150x80	unit		
6.1.9	IP66-IK10 Junction box (with terminal bloc) 200x200x80	unit		



6.1.10	IP66-IK10 Junction box (with terminal bloc) 300x300x120	unit	
6.1.11	IP66-IK10 Junction box (with terminal bloc) 400x400x120	unit	
6.2	Plastic-PVC-Polypropylene-polymer enclosure		
6.2.1	IP65-IK09 6 modules	unit	
6.2.2	IP65-IK09 12 modules	unit	
6.2.3	IP65-IK09 16 modules	unit	
6.2.4	IP65-IK09 24 modules	unit	
6.2.5	IP65-IK09 36 modules	unit	
6.2.6	IP55-IK08 80x80x45mm	unit	
6.2.7	IP55-IK08 105x105x55mm	unit	
6.2.8	IP55-IK08 130x130x74mm	unit	
7-Enclosure internal equipment (indicator-commutation-protection-connection-labelling-heater-light-transformer-SPD....)			
7.1	various accessories		
7.1.1	Tri-led voltage presence indicator	unit	
7.1.2	2 positions commutator	unit	
7.1.3	3 positions commutator	unit	
7.1.4	push button	unit	
7.1.5	emergency stop button front mounting	unit	
7.1.6	plan pocket	unit	
7.1.7	engraved labels 10x10mm	unit	
7.1.8	engraved labels 30x20mm	unit	
7.1.9	engraved labels 50x20mm	unit	
7.1.10	engraved labels 70x20mm	unit	
7.1.11	engraved labels 100x30mm	unit	
7.1.12	engraved labels 100x100mm	unit	
7.1.13	Cable Tag 15x95mm	unit	
7.1.14	Cable Tag 13x57mm	unit	
7.1.15	wiring tags	unit	
7.1.16	Hélévia wiring sleeves (various colour)	unit	
7.1.17	BB brass terminal 17mm	unit	
7.1.18	Plastic cable gland PG11 or ISO equivalent	unit	
7.1.19	Plastic cable gland PG16 or ISO equivalent	unit	
7.1.20	Plastic cable gland PG29 or ISO equivalent	unit	
7.1.21	Plastic cable gland PG36 or ISO equivalent	unit	
7.1.22	Plastic cable gland PG42 or ISO equivalent	unit	
7.1.23	Plastic cable gland PG48 or ISO equivalent	unit	

Price includes the supply, installation/connections and accessories. Installation could be in a new or in an existing electrical boards. For example a circuit breaker includes implicitly the internal wiring, terminals, labels, sleeves, wiring tags. Accessories can be installed individually (for example in order to fix a non conformity raised during a legal inspection)



7.1.24	Metallic cable gland PG11 or ISO equivalent	unit
7.1.25	Metallic cable gland PG16 or ISO equivalent	unit
7.1.26	Metallic cable gland PG29 or ISO equivalent	unit
7.1.27	Metallic cable gland PG36 or ISO equivalent	unit
7.1.28	Metallic cable gland PG42 or ISO equivalent	unit
7.1.29	Metallic cable gland PG48 or ISO equivalent	unit
7.1.30	Heating resistor Climasys 250VAC-20W	unit
7.1.31	internal lighting device 400mm-230VAC class 2	unit
7.1.32	security transformer legrand 044235 250VA	unit
7.1.33	security transformer legrand 044236 400VA	unit
7.1.34	separation transformer legrand 044265 250VA	unit
7.1.35	separation transformer legrand 044267 630VA	unit
7.1.36	separation transformer legrand 044268 1000VA	unit
7.2	Connection	
7.2.2	terminal bloc 1.5mm ²	unit
7.2.3	terminal bloc 2.5mm ²	unit
7.2.4	terminal bloc 4mm ²	unit
7.2.5	terminal bloc 6mm ²	unit
7.2.6	terminal bloc 10mm ²	unit
7.2.7	terminal bloc 16mm ²	unit
7.2.8	terminal bloc 25mm ²	unit
7.2.9	terminal bloc 35mm ²	unit
7.2.10	terminal bloc 50mm ²	unit
7.2.11	Distribution bloc 125A	unit
7.2.12	Distribution bloc 160A	unit
7.2.13	Distribution bloc 250A	unit
7.3	Circuit Breaker	
7.3.1	iDT40N 1P+N-1 to 6A-curve C-10kA	unit
7.3.2	iDT40N 1P+N-10 to 16A-curve C-10kA	unit
7.3.3	iDT40N 1P+N-25A-curve C-10kA	unit
7.3.4	iDT40N 1P+N-32A-curve C-10kA	unit
7.3.5	iDT40N 1P+N-40A-curve C-10kA	unit
7.3.6	iDD40N 1P+N 32A+rcd30mA-curve C-10KA	unit
7.3.7	iDD40N 1P+N 40A+rcd30mA-curve C-10KA	unit



7.3.8	RCD iDT40 VIGI 1P+N 25A- AC type-30mA	unit
7.3.9	RCD iDT40 VIGI 1P+N 40A- AC type-30mA	unit
7.3.10	iC60N 2P-0.5 to 4A-curve C-50kA	unit
7.3.11	iC60N 2P-6 to 16A-curve C-10kA	unit
7.3.12	iC60N 2P-25A-curve C-10kA	unit
7.3.13	iC60N 2P-32A-curve C-10kA	unit
7.3.14	iC60N 2P-40A-curve C-10kA	unit
7.3.15	iC60N 2P-50A-curve C-10kA	unit
7.3.16	iC60N 2P-63A-curve C-10kA	unit
7.3.17	iC60N 2P-6 to 16A-curve B-10kA	unit
7.3.18	iC60N 2P-25A-curve B-10kA	unit
7.3.19	iC60N 2P-32A-curve B-10kA	unit
7.3.20	iC60N 2P-40A-curve B-10kA	unit
7.3.21	iC60N 2P-50A-curve B-10kA	unit
7.3.22	iC60N 2P-63A-curve B-10kA	unit
7.3.23	iC60N 2P-6 to 16A-curve D-10kA	unit
7.3.24	iC60N 2P-25A-curve D-10kA	unit
7.3.25	iC60N 2P-32A-curve D-10kA	unit
7.3.26	iC60N 2P-40A-curve D-10kA	unit
7.3.27	iC60N 2P-50A-curve D-10kA	unit
7.3.28	iC60N 2P-63A-curve D-10kA	unit
7.3.29	iC60L 2P-0.5 to 4A-curve C-100kA	unit
7.3.30	iC60L 2P-6 to 16A-curve C-25kA	unit
7.3.31	iC60L 2P-25A-curve C-25kA	unit
7.3.32	iC60L 2P-32A-curve C-20kA	unit
7.3.33	iC60L 2P-40A-curve C-20kA	unit
7.3.34	iC60L 2P-50A-curve C-15kA	unit
7.3.35	iC60L 2P-63A-curve C-15kA	unit
7.3.36	iC60L 2P-6 to 16A-curve B-25kA	unit
7.3.37	iC60L 2P-25A-curve B-25kA	unit
7.3.38	iC60L 2P-32A-curve B-20kA	unit
7.3.39	iC60L 2P-40A-curve B-20kA	unit
7.3.40	iC60L 2P-50A-curve B-15kA	unit
7.3.41	iC60L 2P-63A-curve B-15kA	unit
7.3.42	iC60L 2P-6 to 16A-curve K-25kA	unit
7.3.43	iC60L 2P-25A-curve K-25kA	unit
7.3.44	iC60L 2P-32A-curve K-20kA	unit
7.3.45	iC60L 2P-40A-curve K-20kA	unit
7.3.46	iC60L 2P-50A-curve K-15kA	unit
7.3.47	iC60L 2P-63A-curve K-15kA	unit
7.3.48	RCD iC60 VIGI 2P 25A- AC type-30mA	unit
7.3.49	RCD iC60 VIGI 2P 40A- AC type-30mA	unit
7.3.50	RCD iC60 VIGI 2P 63A- AC type-30mA	unit



7.3.51	RCD iC60 VIGI 2P 25A- AC type-300mA	unit
7.3.52	RCD iC60 VIGI 2P 40A- AC type-300mA	unit
7.3.53	RCD iC60 VIGI 2P 63A- AC type-300mA	unit
7.3.54	iC60N RCBO 2P-10 to 16A-30mA type AC-15kA	unit
7.3.55	iC60HDC 2P-0.5 to 6A	unit
7.3.56	iC60HDC 2P-10 to 16A	unit
7.3.57	iC60N 3P-0.5 to 4A-curve C-50kA	unit
7.3.58	iC60N 3P-6 to 16A-curve C-10kA	unit
7.3.59	iC60N 3P-25A-curve C-10kA	unit
7.3.60	iC60N 3P-32A-curve C-10kA	unit
7.3.61	iC60N 3P-40A-curve C-10kA	unit
7.3.62	iC60N 3P-50A-curve C-10kA	unit
7.3.63	iC60N 3P-63A-curve C-10kA	unit
7.3.64	iC60N 3P-10 to 16A-curve B-10kA	unit
7.3.65	iC60N 3P-25A-curve B-10kA	unit
7.3.66	iC60N 3P-32A-curve B-10kA	unit
7.3.67	iC60N 3P-40A-curve B-10kA	unit
7.3.68	iC60N 3P-50A-curve B-10kA	unit
7.3.69	iC60N 3P-63A-curve B-10kA	unit
7.3.70	iC60N 3P-6 to 16A-curve D-10kA	unit
7.3.71	iC60N 3P-25A-curve D-10kA	unit
7.3.72	iC60N 3P-32A-curve D-10kA	unit
7.3.73	iC60N 3P-40A-curve D-10kA	unit
7.3.74	iC60N 3P-50A-curve D-10kA	unit
7.3.75	iC60N 3P-63A-curve D-10kA	unit
7.3.76	iC60L 3P-0.5 to 4A-curve C-100kA	unit
7.3.77	iC60L 3P-6 to 16A-curve C-25kA	unit
7.3.78	iC60L 3P-25A-curve C-25kA	unit
7.3.79	iC60L 3P-32A-curve C-20kA	unit
7.3.80	iC60L 3P-40A-curve C-20kA	unit
7.3.81	iC60L 3P-50A-curve C-15kA	unit
7.3.82	iC60L 3P-63A-curve C-15kA	unit
7.3.83	iC60L 3P-6 to 16A-curve B-25kA	unit
7.3.84	iC60L 3P-25A-curve B-25kA	unit
7.3.85	iC60L 3P-32A-curve B-20kA	unit
7.3.86	iC60L 3P-40A-curve B-20kA	unit
7.3.87	iC60L 3P-50A-curve B-15kA	unit
7.3.88	iC60L 3P-63A-curve B-15kA	unit
7.3.89	iC60L 3P-6 to 16A-curve K-25kA	unit
7.3.90	iC60L 3P-25A-curve K-25kA	unit
7.3.91	iC60L 3P-32A-curve K-20kA	unit
7.3.92	iC60L 3P-40A-curve K-20kA	unit
7.3.93	iC60L 3P-50A-curve K-15kA	unit



7.3.94	iC60L 3P-63A-curve K-15kA	unit
7.3.95	RCD iC60 VIGI 3P 25A- AC type-30mA	unit
7.3.96	RCD iC60 VIGI 3P 40A- AC type-30mA	unit
7.3.97	RCD iC60 VIGI 3P 63A- AC type-30mA	unit
7.3.98	RCD iC60 VIGI 3P 25A- AC type-300mA	unit
7.3.99	RCD iC60 VIGI 3P 40A- AC type-300mA	unit
7.3.100	RCD iC60 VIGI 3P 63A- AC type-300mA	unit
7.3.101	iC60N 4P-0.5 to 4A-curve C-50kA	unit
7.3.102	iC60N 4P-6 to 16A-curve C-10kA	unit
7.3.103	iC60N 4P-25A-curve C-10kA	unit
7.3.104	iC60N 4P-32A-curve C-10kA	unit
7.3.105	iC60N 4P-40A-curve C-10kA	unit
7.3.106	iC60N 4P-50A-curve C-10kA	unit
7.3.107	iC60N 4P-63A-curve C-10kA	unit
7.3.108	iC60N 4P-10 to 16A-curve B-10kA	unit
7.3.109	iC60N 4P-25A-curve B-10kA	unit
7.3.110	iC60N 4P-32A-curve B-10kA	unit
7.3.111	iC60N 4P-40A-curve B-10kA	unit
7.3.112	iC60N 4P-50A-curve B-10kA	unit
7.3.113	iC60N 4P-63A-curve B-10kA	unit
7.3.114	iC60N 4P-6 to 16A-curve D-10kA	unit
7.3.115	iC60N 4P-25A-curve D-10kA	unit
7.3.116	iC60N 4P-32A-curve D-10kA	unit
7.3.117	iC60N 4P-40A-curve D-10kA	unit
7.3.118	iC60N 4P-50A-curve D-10kA	unit
7.3.119	iC60N 4P-63A-curve D-10kA	unit
7.3.120	iC60L 4P-0.5 to 4A-curve C-100kA	unit
7.3.121	iC60L 4P-6 to 16A-curve C-25kA	unit
7.3.122	iC60L 4P-25A-curve C-25kA	unit
7.3.123	iC60L 4P-32A-curve C-20kA	unit
7.3.124	iC60L 4P-40A-curve C-20kA	unit
7.3.125	iC60L 4P-50A-curve C-15kA	unit
7.3.126	iC60L 4P-63A-curve C-15kA	unit
7.3.127	iC60L 4P-6 to 16A-curve B-25kA	unit
7.3.128	iC60L 4P-25A-curve B-25kA	unit
7.3.129	iC60L 4P-32A-curve B-20kA	unit
7.3.130	iC60L 4P-40A-curve B-20kA	unit
7.3.131	iC60L 4P-50A-curve B-15kA	unit
7.3.132	iC60L 4P-63A-curve B-15kA	unit
7.3.133	iC60L 4P-6 to 16A-curve K-25kA	unit
7.3.134	iC60L 4P-25A-curve K-25kA	unit
7.3.135	iC60L 4P-32A-curve K-20kA	unit



7.3.136	iC60L 4P-40A-curve K-20kA	unit
7.3.137	iC60L 4P-50A-curve K-15kA	unit
7.3.138	iC60L 4P-63A-curve K-15kA	unit
7.3.139	RCD iC60 VIGI 4P 25A- AC type-30mA	unit
7.3.140	RCD iC60 VIGI 4P 40A- AC type-30mA	unit
7.3.141	RCD iC60 VIGI 4P 63A- AC type-30mA	unit
7.3.142	RCD iC60 VIGI 4P 25A- AC type-300mA	unit
7.3.143	RCD iC60 VIGI 4P 40A- AC type-300mA	unit
7.3.144	RCD iC60 VIGI 4P 63A- AC type-300mA	unit
7.3.145	iC60N RCBO 4P-10 to 16A-30mA type AC-15kA	unit
7.3.146	NG125L-2P-10 to 16A-curve C-50kA	unit
7.3.147	NG125L-2P-25A-curve C-50kA	unit
7.3.148	NG125L-2P-32A-curve C-50kA	unit
7.3.149	NG125L-2P-40A-curve C-50kA	unit
7.3.150	NG125L-2P-50A-curve C-50kA	unit
7.3.151	NG125L-2P-63A-curve C-50kA	unit
7.3.152	NG125L-2P-80A-curve C-50kA	unit
7.3.153	NG125L-2P-10 to 16A-curve D-50kA	unit
7.3.154	NG125L-2P-25A-curve D-50kA	unit
7.3.155	NG125L-2P-32A-curve D-50kA	unit
7.3.156	NG125L-2P-40A-curve D-50kA	unit
7.3.157	NG125L-2P-50A-curve D-50kA	unit
7.3.158	NG125L-2P-63A-curve D-50kA	unit
7.3.159	NG125L-2P-80A-curve D-50kA	unit
7.3.160	RCD NG125 VIGI 2P 63A-AC type-30mA	unit
7.3.161	RCD NG125 VIGI 2P 63A-AC type-300mA	unit
7.3.162	NG125L-3P-10 to 16A-curve C-50kA	unit
7.3.163	NG125L-3P-25A-curve C-50kA	unit
7.3.164	NG125L-3P-32A-curve C-50kA	unit
7.3.165	NG125L-3P-40A-curve C-50kA	unit
7.3.166	NG125L-3P-50A-curve C-50kA	unit
7.3.167	NG125L-3P-63A-curve C-50kA	unit
7.3.168	NG125L-3P-80A-curve C-50kA	unit
7.3.169	NG125L-3P-10 to 16A-curve D-50kA	unit
7.3.170	NG125L-3P-25A-curve D-50kA	unit
7.3.171	NG125L-3P-32A-curve D-50kA	unit
7.3.172	NG125L-3P-40A-curve D-50kA	unit
7.3.173	NG125L-3P-50A-curve D-50kA	unit
7.3.174	NG125L-3P-63A-curve D-50kA	unit
7.3.175	NG125L-3P-80A-curve D-50kA	unit



7.3.176	RCD NG125 VIGI 3P 63A-AC type-30mA	unit
7.3.177	RCD NG125 VIGI 3P 63A-AC type-300mA	unit
7.3.178	RCD NG125 VIGI 3P 125A-AC type-30mA	unit
7.3.179	RCD NG125 VIGI 3P 125A-AC type-300mA	unit
7.3.180	NG125N-4P-100A-curve C-25kA	unit
7.3.181	NG125N-4P-125A-curve C-25kA	unit
7.3.182	NG125N-4P-100A-curve D-25kA	unit
7.3.183	NG125N-4P-125A-curve D-25kA	unit
7.3.184	NG125L-4P-10 to 16A-curve C-50kA	unit
7.3.185	NG125L-4P-25A-curve C-50kA	unit
7.3.186	NG125L-4P-32A-curve C-50kA	unit
7.3.187	NG125L-4P-40A-curve C-50kA	unit
7.3.188	NG125L-4P-50A-curve C-50kA	unit
7.3.189	NG125L-4P-63A-curve C-50kA	unit
7.3.190	NG125L-4P-80A-curve C-50kA	unit
7.3.191	NG125L-4P-10 to 16A-curve D-50kA	unit
7.3.192	NG125L-4P-25A-curve D-50kA	unit
7.3.193	NG125L-4P-32A-curve D-50kA	unit
7.3.194	NG125L-4P-40A-curve D-50kA	unit
7.3.195	NG125L-4P-50A-curve D-50kA	unit
7.3.196	NG125L-4P-63A-curve D-50kA	unit
7.3.197	NG125L-4P-80A-curve D-50kA	unit
7.3.198	RCD NG125 VIGI 4P 63A-AC type-30mA	unit
7.3.199	RCD NG125 VIGI 4P 63A-AC type-300mA	unit
7.3.200	RCD NG125 VIGI 4P 125A-AC type-30mA	unit
7.3.201	RCD NG125 VIGI 4P 125A-AC type-300mA	unit
7.3.202	TeSys GV2-3P-0.1 to 0.16A	unit
7.3.203	TeSys GV2-3P-0.16 to 0.25A	unit
7.3.204	TeSys GV2-3P-0.25 to 0.40A	unit
7.3.205	TeSys GV2-3P-0.40 to 0.63A	unit
7.3.206	TeSys GV2-3P-0.63 to 1A	unit
7.3.207	TeSys GV2-3P-1 to 1.6A	unit
7.3.208	TeSys GV2-3P-1.6 to 2.5A	unit
7.3.209	TeSys GV2-3P-2.5 to 4A	unit
7.3.210	TeSys GV2-3P-4 to 6.3A	unit
7.3.211	TeSys GV2-3P-6 to 10A	unit
7.3.212	TeSys GV2-3P-9 to 14A	unit
7.3.213	TeSys GV2-3P-13 to 18A	unit
7.3.214	TeSys GV2-3P-17 to 23A	unit
7.3.215	TeSys GV2-3P-20 to 25A	unit



7.3.216	NSX100N-3P-micro 2.2-40A	unit	
7.3.217	NSX100N-3P-micro 2.2-100A	unit	
7.3.218	NSX100N-4P-micro 2.2-40A	unit	
7.3.219	NSX100N-4P-micro 2.2-100A	unit	
7.3.220	NSX160N-3P-micro 2.2-100A	unit	
7.3.221	NSX160N-3P-micro 2.2-160A	unit	
7.3.222	NSX160N-4P-micro 2.2-100A	unit	
7.3.223	NSX160N-4P-micro 2.2-160A	unit	
7.3.224	NSX250N-3P-micro 2.2-160A	unit	
7.3.225	NSX250N-3P-micro 2.2-250A	unit	
7.3.226	NSX250N-4P-micro 2.2-160A	unit	
7.3.227	NSX250N-4P-micro 2.2-250A	unit	
7.3.228	over cost for micrologic 5.2E	%	
7.3.229	over cost RCD for NSX	%	
7.4	miscellaneous for circuit breaker		
7.4.1	Mx tripping coil iC60 (230V)+OF	unit	
7.4.2	Mx tripping coil NG125 (230V)+OF	unit	
7.4.3	Mx tripping coil NSX (230V)+OF	unit	
7.4.4	MN tripping coil iC60 (48V or 230V)	unit	
7.4.5	MN tripping coil NG125 (48V or 230V)	unit	
7.4.6	MN tripping coil NSX (48V or 230V)	unit	
7.4.7	OF/SD contact for IC60	unit	
7.4.8	OF/SD contact for NG125	unit	
7.4.9	OF/SD contact for NSX	unit	
7.4.10	spreader terminal for NSX	unit	
7.4.11	Terminal cover for NSX or NG125	unit	
7.5	Fuses		
7.5.1	1Ph+N modular fuse holder including fuses (10x38mm)	unit	
7.5.2	2P modular fuse holder including fuses (10x38mm)	unit	
7.5.3	3P modular fuse holder including fuses (10x38mm)	unit	
7.5.4	4P modular fuse holder including fuses (10x38mm)	unit	
7.5.5	1Ph+N modular fuse holder including fuses (14x51mm)	unit	
7.5.6	2P modular fuse holder including fuses (14x51mm)	unit	
7.5.7	3P modular fuse holder including fuses (14x51mm)	unit	
7.5.8	4P modular fuse holder including fuses (14x51mm)	unit	
7.5.9	1Ph+N modular fuse holder including fuses (22x58mm)	unit	
7.5.10	2P modular fuse holder including fuses (22x58mm)	unit	



7.5.11	3P modular fuse holder including fuses (22x58mm)	unit	
7.5.12	4P modular fuse holder including fuses (22x58mm)	unit	
7.5.13	2P fuse holder including fuses (NH format)	unit	
7.5.14	3P fuse holder including fuses (NH format)	unit	
7.5.15	4P fuse holder including fuses (NH format)	unit	
7.5.16	spare fuse 10x38mm	unit	
7.5.17	spare fuse 14x51mm	unit	
7.5.18	spare fuse 22x58mm	unit	
7.5.19	spare fuse NH	unit	
7.6	Contactor		
7.6.1	contactor 3P-25A-Aux 24 to 250V	unit	
7.6.2	contactor 3P-40A-Aux 24 to 250V	unit	
7.6.3	contactor 3P-63A-Aux 24 to 250V	unit	
7.6.4	auxiliaries block 2 contacts	unit	
7.6.5	auxiliaries block 4 contacts	unit	
7.7	Switch Disconnecter		
7.7.1	iSW 2P-40A	unit	
7.7.2	iSW 2P-63A	unit	
7.7.3	iSW 4P-40A	unit	
7.7.4	iSW 4P-63A	unit	
7.7.5	iSW 4P-100A	unit	
7.7.6	iSW 4P-125A	unit	
7.7.7	OF contact for switch disconnecter	unit	
7.7.8	NG125NA 3P-63A	unit	
7.7.9	NG125NA 3P-80A	unit	
7.7.10	NG125NA 3P-100A	unit	
7.7.11	NG125NA 3P-125A	unit	
7.7.12	NG125NA 4P-63A	unit	
7.7.13	NG125NA 4P-80A	unit	
7.7.14	NG125NA 4P-100A	unit	
7.7.15	NG125NA 4P-125A	unit	
7.7.16	NSX100NA 3P-100A	unit	
7.7.17	NSX160NA 3P-160A	unit	
7.7.18	NSX250NA 3P-250A	unit	
7.7.19	NSX100NA 4P-100A	unit	
7.7.20	NSX160NA 4P-160A	unit	
7.7.21	NSX250NA 4P-250A	unit	
7.7.22	Transfer switch Sirco VM1 3P 125A 22003012	unit	
7.7.23	Transfer switch Sircover 3P 250A 26003026	unit	
7.7.24	Transfer switch Sirco VM1 4P 125A 22004012	unit	



7.7.25	Transfer switch Sircover 4P 250A 26004026	unit
7.7.26	Transfer switch COMO CS 3P 63A 43203106	unit
7.7.27	Transfer switch COMO CS 4P 63A 43204106	unit
7.7.28	switch Sirco MV 3P 125A 44303012	unit
7.7.29	switch Sirco 3P 250A 41AC3025	unit
7.7.30	switch Sirco MV 4P 125A 44304012	unit
7.7.31	switch Sirco 4P 250A 41AC4025	unit
7.7.32	switch COMO 3P 63A 21153406	unit
7.7.33	switch COMO 4P 63A 21154406	unit
7.8	Relay	
7.8.1	RH Relay (24 to 250V)	unit
7.8.2	Homopolar relay vigirex RH99M 48DC or 240 VAC	unit
7.8.3	Homopolar toroid diam 50mm compatible RH99	unit
7.8.4	Homopolar toroid diam 80mm compatible RH99	unit
7.8.5	Homopolar toroid diam 120mm compatible RH99	unit
7.8.6	Homopolar toroid diam 200mm compatible RH99	unit
7.8.7	remote control switch 1P-16A	unit
7.8.8	remote control switch 2P-16A	unit
7.9	Surge protection Device (SPD)	
7.9.1	PRD1 12,5r type 1+2-1P+N	unit
7.9.2	PRD1 12,5r type 1+2-3P	unit
7.9.3	PRD1 12,5r type 1+2-3P+N	unit
7.9.4	spare cartridge type 1+2 PRD1 12,5r	unit
7.9.5	PRD1 25r type 1+2-1P+N	unit
7.9.6	PRD1 25r type 1+2-3P+N	unit
7.9.7	PRD1 25r type 1+2-3P+N	unit
7.9.8	spare cartridge type 1 PRD1 25r	unit
7.9.9	spare cartridge type 2 PRD1 25r	unit
7.9.10	PRD1 Master type 1-1P+N	unit
7.9.11	PRD1 Master type 1-3P	unit
7.9.12	PRD1 Master type 1-3P+N	unit
7.9.13	spare cartridge Type 1 PRD1 master	unit
7.9.14	iPRD65r type 2-1P+N	unit
7.9.15	iPRD65r type 2-3P+N	unit
7.9.16	iPRD65r type 2-3P+N	unit
7.9.17	spare cartridge type 2 iPRD65r	unit
7.9.18	DEHNventil Type 1+2 2P FM 951205	unit
7.9.19	DEHNventil Type 1+2 4P FM 951405	unit
7.9.20	DEHN spare cartridge 951001	unit
7.9.21	DEHNvenCI type 1+2 FM 961205	unit



7.9.22	DEHNguard Type 2 2P FM 952207	unit		
7.9.23	DEHNguard Type 2 4P FM 952407	unit		
7.9.24	DEHN spare cartridge 952010	unit		
7.9.25	DEHNguard CI Type 2 2P FM 952178	unit		
7.9.26	DEHNguard CI Type 2 4P FM 952406	unit		
7.9.27	DEHN spare cartridge for DEHNguard CI	unit		
7.9.28	DEHN BLITZDUCTORconnect-withdrawable-reference according to the signal (TBD)	unit		
7.9.29	spare cartridge DEHN BLITZDUCTORconnect	unit		
8-Equipment				The price includes the supply, installation and connection including the accessories (screws, ankle, holes....). The color by default is white
8.1	Services-Utilities			
8.1.1	Legrand plexo IP55 mni-single switch	unit		
8.1.2	Legrand plexo IP55 mni-2 way switch	unit		
8.1.3	Legrand plexo IP55 mini-Push-off switch	unit		
8.1.4	Legrand plexo IP55 mini-socket 1P+N+E-16A	unit		
8.1.5	Male+Female Hypra socket IP55 mini-1P+N+E 16A+socle	unit		
8.1.6	Male+Female Hypra socket IP55 mini-3P+N+E 32A+socle	unit		
8.1.7	Legrand mosaic single switch	unit		
8.1.8	Legrand mosaic 2 way switch	unit		
8.1.9	Legrand mosaic Push-off switch	unit		
8.1.10	Legrand mosaic socket 1P+N+E-16A	unit		
8.1.11	electrical heater 1000W	unit		
8.1.12	electrical heater 2000W	unit		
8.1.13	Emergency lighting block SATI 45lm NFC 71800-71820	unit		
8.1.14	Ambiance lighting block SATI 400lm NFC 71800	unit		
8.1.15	remote controle for emergency block	unit		
8.1.16	Emergency stop legrand 038096 or 038098+labelling	unit		
8.1.17	emergency call break glass box	unit		
8.1.18	Lighting device THORN Aquaforce Pro 96630754	unit		
8.1.19	Lighting device THORN Aquaforce Pro 96630758	unit		
8.1.20	lighting device THORN leonie 30W 96630337	unit		
8.1.21	lighting device THORN leonie 50W 96630338	unit		



8.1.22	lighting device THORN leo 100W 96630253	unit		
8.1.23	over cost for infrared sensor for THORN lighting devices	%		

5.2.2 Service Duration

The maximum expected duration for this framework contract is 4 years plus one optional period of 2 year.

5.2.3 Prices and instruction to proceed

Prior to any execution of services (works):

- The IO shall launch a works request using JIRA application,
- The contractor shall propose a quotation based on the bill of prices provided in the frame of the contract. This quotation must be posted on JIRA
- The IO will notify its acceptance through the issuance of a signed Work Order (Template in Annex 1). Both parties must sign the Work Order a copy is posted on JIRA application*.

The company could be requested to purchase additional material/equipment not included in the bill of prices on behalf of the IO. This clause is detailed in the Contract.

*IO will grant the relevant JIRA access to the company.

6 Location for Scope of Work Execution

The works will take place on ITER electrical networks/installations; therefore, the company is likely to intervene everywhere on the ITER platform with different area coordinator (CMA, ENGAGE, IO BFO, IO COMMISSIONING)

7 IO Documents& IO Free issue items

No input nor free issue item is expected from IO

8 List of deliverables and schedule milestones

The Supplier shall provide IO with the documents and data required in the application of this technical specification, the GM3S Ref [1] and any other requirement derived from the application of the contract.

A minimum, but not limited to, list of documents is available hereafter with associated due dates:



Technical Design Family (TDF)	Generic Document Title (GTD)	Further Description	Expected date (T0+x) *
Contract management	Quality assurance plan	Mandatory	2 weeks before KOM
Contract management	Subcontractor Approval Form (SAF)	NA (because subcontracting is not authorized on this contract)	NA
Contract management	Environmental Plan (PRE)	Mandatory	2 weeks before KOM
Contract management	Health and Safety Plan (PPSPS)	Mandatory	2 weeks before KOM
Contract management	KOM Minutes	Mandatory	KOM+2 weeks
Other Manufacturing Input	Data sheets/quotation	When necessary/if requested	1 week before the works
Assembly and Installation Record or Report	Execution document (study, site survey etc...)	When necessary/if requested	1 week before the works
Assembly and Installation Record or Report	As-Constructed Drawing	When necessary/if requested	2 weeks before the closure of a WO
Assembly and Installation Record or Report	Evidence-Photo	For each demand	2 days after work completion

(*) T0 = Commencement Date of the contract; X in weeks.

Supplier is requested to prepare their document schedule based on the above and using the template available in the GM3S Ref [1] appendix II ([click here to download](#)).

9 Quality Assurance requirements

The Quality class under this contract is QC3, [Ref 1] GM3S section 8 applies in line with the defined Quality Class.

10 Safety requirements

The scope under this contract does not covers for PIC and/or PIA and/or PE/NPE components.

10.1 Nuclear class Safety

No specific nuclear class safety is required.

10.2 Seismic class



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

11 Specific General Management requirements

Requirement for [Ref 1] GM3S section 6 applies completed/amended with the below specific requirements:”

-No progress report (6.1.4.2 of the GM3S) is required as the works are expected to be basic and short duration.

Simple Progress reports (excel format) can be extracted anytime from JIRA by the parties.

11.1 Contract Gates

The contract gates are defined in [Ref 1] section 6.1.5, this scope of service call for the following technical gates:

- Kick Off Meeting
- Contract closeout

11.2 Work Monitoring

Works will be followed on site daily, the company and IO's work requestor must interact on site so that the works to be performed are clear and take place safely. The works will be monitored using JIRA EPD project. The request will be sent by IO (using JIRA ticket system), the company will have to manage each ticket in collaboration with IO. Each deliverable and evidence of the work completion (Execution study, as-built, photo etc.) must be uploaded in JIRA system.

11.3 Meeting Schedule

Works are expected to be simple; no specific periodical meeting is foreseen to monitor the progress. As stated in 11.2 works will be followed on site on daily basis. However, the company must attend to any coordination meeting linked with a given work.

11.4 CAD design requirements

When particular CAD activities are required, [Ref 1] GM3S section 6.2.2.2 applies.

11.5 Site Data

11.5.1 *Site Information*

The Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Works. To the same extent, the Contractor shall be deemed to have inspected and



examined the site, its surroundings, the above data, and other available information, and to have been satisfied as to all relevant matters.

11.5.2 *Roads and Traffic management*

When necessary, it is the responsibility of the Contractor to put in place all the necessary safety and traffic management measures, in accordance with applicable rules and regulations, to ensure that staff and vehicles retain safe passage across the ITER Site. All the required equipment etc. to create a safe environment for the Works and ITER staff shall be provided by the Contractor.

During the Works, any road shall not be blocked for more than half its width. For total closure of any roads, Works shall be performed on Saturdays only.

Roads accessing the worksite must be always kept clean. For this purpose, the Contractor shall organize road washing as often as earth is observed.

Vehicles or machinery, particularly those used for earthworks and civil engineering works, must be manoeuvred safely. Any damage to surrounding structures (buildings, roads, sidewalks, walkways) must be immediately repaired by the Contractor.

11.5.3 *Permit to Work*

In accordance with the relevant procedure, a permit to work (PTW) must be obtained prior to start any Works on the ITER Site. Permit to work will be created by the IO's work requestor using the software in force on ITER site. The contractor must provide all the documents requested in the permit to work procedure (PRE, PPSPS, electrical accreditation....etc). Once the permit ready and duly validated, the contractor will have to accept the permit in the permit to work software.



ANNEX 1 Work Order template

WORK ORDER No. **XX**

Task Order No. xx ref. xxxxxxxxxxxx

issued in accordance with Framework Contract No. xxxxxxxxxxxx

“Electrical Works and Lightning Protection”

between the ITER Organization and xxxxxxxx

Jira ticket reference

xxxxxxxxx

Task Description

xxxxxxx

Commitment of Work Orders under Task Order #xx

Work Order Reference	Maximum Amount of Work Order in EUR	Cumulative expenditure under Task Order #xx in EUR	Maximum amount not to be exceeded under Task Order #xx in EUR
xxxx	xxxxxx	xxxxxxx	xxxxx
/	/	/	
/	/	/	
/	/	/	
/	/	/	
/	/	/	

Approval

IO Representative	Contractor representative
Date xxxxx	Date
Name and Signature xxxxxxx	Name and Signature