

**Technical Specifications (In-Cash Procurement)**

**Technical summary for procurement of cables and cable accessories related to PCR 749**

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# Cabling and Cabling Connectivity Accessories Supply on Demand

## Call for Nomination

### 1. Purpose

The ITER Organization plans to set up a procurement framework contract to provide the IO with a general supplier for a variety of cables and cable connectivity accessories. To establish this framework contract a call for tender is being organized. This call for nomination is the first step in which the ITER Organization seeks nomination of suitable companies.

### 2. Background

In southern France, 35 nations are collaborating to build the world's largest tokamak, a magnetic fusion device that has been designed to prove the feasibility of fusion as a large-scale and carbon-free source of energy based on the same principle that powers our Sun and stars.

The tokamak is an experimental machine designed to harness the energy of fusion. Inside a tokamak, the energy produced through the fusion of atoms is absorbed as heat in the walls of the vessel. Just like a conventional power plant, a fusion power plant will use this heat to produce steam and then electricity by way of turbines and generators.

For more information on ITER Project please visit our site [www.iter.org](http://www.iter.org).

### 3. Scope of work

The contract's duration will be for three firm years with potential options to extend it.

Being a framework contract, the intention is to issue a task order periodically, typically every 4 months and with 2 month in advance of needed delivery. On exceptional basis, for standard connectivity accessories, any tenderer shall have the capability to deliver limited quantities of items in 24h after notification.

It is asked to provide items coming from, but not limited to, the following product families:

#### **Cables**

- Low voltage power supply cables 0.6/1kV
- Control cables 450/750V
- Overall and/or individual shielded twisted pair instrumentation cables 300/500V
- Computer and industrial network cables (Cat.5e to Cat.7a, Profibus, Profinet)
- Telecom cables
- Single and multi-mode fiber optics

With regards to the cable products, a list with individual lengths will be provided and the selected supplier is expected to perform basic drum management and display this information on the delivered cable reels.

**Cable connectivity accessories:**

- Fiber optics:
  - Fiber optic pigtails with connector
  - Pigtail adaptors
  - Adaptors front plate
  - Splicing accessories: fusion splice holder, splicing cassette (tray), splice sleeve
  - Panel for splicing (19” / 1U)
  - Preloaded panels with adaptors and pigtails (19” / 1U)
- Ethernet connectors:
  - RJ45

All items are to be delivered at the site of the ITER Organization (St.Paul-lez-Durance).

**4. Material requirements and applicable standards**

1. All cables shall have printed meter marking and the corresponding ITER cable type code (from the IO Cable Catalogue) additional to standard manufacturer printing;
2. All cables are to be installed on cable trays by pulling.
3. All cables shall comply with the following standards:
  - Fire retardancy as per: NFC 32070 C1, IEC 60332-1 and/or IEC 60332-3;
  - Low Smoke as per: IEC 61034;
  - Zero Halogen as per: IEC 60754-1;
  - Non Toxicity as per: IEC 60754-2;
4. A small percentage of cables (related to safety) will have to comply also to:
  - Fire resistance as per: NFC 32070 CR1 or IEC 60331-1/-2;
5. Fiber optic, and some of the network and telecom cables to comply to:
  - IEC 11081
6. Fiber optic cables and all their related connectivity accessories should originate from the same manufacturer in order to minimize compatibility issues.
7. All fiber optic connectivity accessories shall be compliant with:
  - IEC 61754

**5. Timetable**

The tentative timetable is as follows:

Call for Nomination	April 2017
List of Nominated companies	May 2017
Issue Pre-qualification package	May 2017
Deadline for receipt of pre-qualification	June 2017
Issue the call for Tender	July 2017
Deadline for receipt of Tenders	September 2017
Contract Signature	October-November 2017

## 6. Quantities Estimation

The values mentioned below are estimation and reflect current stage of design. They are not to be considered binding.

### Cables:

IO Type Code	Description	Estimated Quantity [m]
FS02F9LN	Fiber Optic, Single Mode, 2 fibers	5000
FS12F9LN	Fiber Optic, Single Mode, 12 fibers	1500
FS24F9LN	Fiber Optic, Single Mode, 24 fibers	12000
FS48F9LN	Fiber Optic, Single Mode, 48 fibers	3000
FS96F9LN	Fiber Optic, Single Mode, 96 fibers	2000
FSM2F9LN	Fiber Optic, Single Mode, 144 fibers	1750
FM04F5LN	Fiber Optic, Multi Mode, 4 fibers	2600
FM24F5LN	Fiber Optic, Multi Mode, 24 fibers	650
MS0414LN	MultiCore Shielded, 4 wires, 14AWG/2.5mm <sup>2</sup>	275
MU3G12LN	MultiCore Power Supply, 3 wires including ground, 12AWG/4mm <sup>2</sup>	2600
MU3G14LN	MultiCore Power Supply, 3 wires including ground, 14AWG/2.5mm <sup>2</sup>	1600
MU4G14LN	MultiCore Power Supply, 3 wires including ground, 14AWG/2.5mm <sup>2</sup>	10000
N40824LN	Ethernet Cable STP (Screened Twisted Pair) Cat.5e	15000
N70822LN	Ethernet Cable S/FTP (Screened Foiled Twisted Pair) Cat.7a	12000
P20217LN	Fieldbus Cable, 1 Foil Shielded Twisted Pair, Braided Overall Shield for Profibus PA	2600
P30422LN	Fieldbus Cable, 2 Twisted Pair, Foil and Braided Overall Shield for Profinet	2600
S11020LF	Fire resistant, Telecom cable SYT+ DIGITAL 8	20000
T10217LN	Halogen Free, Overall Shield, Individually Shielded Twisted Pairs	2000
T10417LN	Halogen Free, Overall Shield, Individually Shielded Twisted Pairs	9000
T10817LN	Halogen Free, Overall Shield, Individually Shielded Twisted Pairs	500
T10820LN	Instrumentation Cable, 4 Individual Shielded Twisted Pairs, OverAll Shield,20AWG/0.5mm <sup>2</sup>	750
T11220LN	Instrumentation Cable, 6 Individual Shielded Twisted Pairs, OverAll Shield,20AWG/0.5mm <sup>2</sup>	750
T12017LN	Halogen Free, Overall Shield, Individually Shielded Twisted Pairs	1500
T12418LN	Instrumentation Cable, 12 Individual Shielded Twisted Pairs, OverAll Shield,18AWG/0.75mm <sup>2</sup>	1000
T20214LN	Instrumentation Cable, 1 Twisted Pair, OverAll Shield, 14AWG/2.5mm <sup>2</sup>	1400
T20216LN	Instrumentation Cable, 1 Twisted Pair, OverAll Shield, 16AWG/1.5mm <sup>2</sup>	220
T20217LN	Instrumentation Cable, 1 Twisted Pair, OverAll Shield, 17AWG/1.0mm <sup>2</sup>	6000
T20416LN	Instrumentation Cable, 2 Twisted Pairs, OverAll Shield, 16AWG/1.5mm <sup>2</sup>	29000
T20417LN	Instrumentation Cable, 2 Twisted Pairs, OverAll Shield, 17AWG/1.0mm <sup>2</sup>	11500
T20420LN	Instrumentation Cable, 2 Twisted Pairs, OverAll Shield, 20AWG/0.5mm <sup>2</sup>	1200
T20816LN	Instrumentation Cable, 4 Twisted Pairs, OverAll Shield, 16AWG/1.5mm <sup>2</sup>	2500
T20818LF	Fire Resistant, Instrumentation Cable, 4 Twisted Pairs, OverAll Shield,18AWG/0.75mm <sup>2</sup>	6000

IO Type Code	Description	Estimated Quantity [m]
T20818LN	Instrumentation Cable, 4 Twisted Pairs, OverAll Shield, 18AWG/0.75mm2	3500
T21218LN	Instrumentation Cable, 6 Twisted Pairs, OverAll Shield, 18AWG/0.75mm2	1200
T22017LN	Instrumentation Cable, 10 Twisted Pairs, OverAll Shield, 17AWG/1.0mm2	10000
T22418LN	Instrumentation Cable, 12 Twisted Pairs, OverAll Shield, 18AWG/0.75mm2	1600
T22420LN	Instrumentation Cable, 12 Twisted Pairs, OverAll Shield, 20AWG/0.5mm2	500
T24818LN	Instrumentation Cable, 24 Twisted Pairs, OverAll Shield, 18AWG/0.75mm2	2600

### Connectivity Accessories:

IO Type Code	Description	Estimated Quantity [pcs]
CFOL01FxLN	Fibre Optic Pigtail OS2 9/125, LC connector	16000
CMRJ01CxLN	RG 45	1000

## 7. Experience

The contractor and its personnel shall have adequate previous experience in manufacturing/supplying items coming from the above product families, to large, public or private, organizations or companies.

## 8. Candidature

Participation is open to all legal entities participating either individually or in a grouping (consortium) which is established in an ITER Member State. A legal person cannot participate individually or as a consortium partner in more than one application or tender. A consortium may be a permanent, legally-established grouping or a grouping, which has been constituted informally for a specific tender procedure. All members of a consortium (i.e. the leader and all other members) are jointly and severally liable to the ITER Organization.

The consortium groupings shall be presented at the pre-qualification stage. The tenderer's composition cannot be modified without the approval of the ITER Organization after the pre-qualification.

Legal entities belonging to the same legal grouping are allowed to participate separately if they are able to demonstrate independent technical and financial capacities. Candidates (individual or consortium) must comply with the selection criteria. The IO reserves the right to disregard duplicated reference projects and may exclude such legal entities from the pre-qualification procedure.