प्लाज़्मा अनुसंधान संस्थान
INSTITUTE FOR PLASMA RESEARCH
परमाणु ऊर्जा विभाग, भारत सरकार का एक सहायता प्राप्त संस्थान
An Aided Institute of Department of Atomic Energy, Government of India

इन्दिरा पुल के पास, भाट, गांधीनगर – 382 428 भारत
दूरभाष: (079) 2396 2020/2021/2028
फैक्स: 91-079-23962277
वेब: www.ipr.res.in

NEAR INDIRA BRIDGE, BHAT
DIST. GANDHINAGAR - 382 428 (INDIA)
Phone: (079) 2396 2020/2021/2028
Fax : 91-079-23962277
Web : www.ipr.res.in

ENQUIRY

ENQUIRY NO : IPR/EQL/19-20/318
Date : 15-11-2019

Due on : 12-12-2019 by 1:00 PM IST

Please send your offer in sealed envelope specifying Enquiry No, Date & Due Date, ALONG WITH your credentials for the following items:

Important Note:

Please note that e-mail quotations are not acceptable however you may send your queries (if any) to localpurchase@ipr.res.in

Please ensure your sealed quotation reaches this office not later than above mentioned due date and time.

Kindly go through the following documents properly before quoting which are available on the IPR web portal i.e., http://www.ipr.res.in/documents/tender_terms.html / attached herewith.

1) Instructions to the bidders & Terms and conditions (refer Form No: **IPR-LP-01.V4**)
2) Bidding format

GST for Goods and Services (IGST/CGST/SGST TAX BENEFITS): Please refer **clause no: 8** of Form No: **IPR-LP-01.V4**

QUOTATION SHOULD BE ADDRESSED TO PURCHASE OFFICER ONLY

Sr No	Description	Quantity
1	Laying of HV cable ,fiber optics,Supply and installation of cable tray as per the attached specification sheet.	1.0 Job

Note: Note : (1) Unsigned quotations are not acceptable.
Quotation should be submitted duly signed on ALL PAGES invariably

(2) TDS as per CGST Act : As per provisions of section No. 51 of the CGST Act 2017, TDS @ 2% (IGST 2% or CGST 1% and SGST 1%) will be deducted while making payment to the suppliers where total value of orders/contracts/work orders exceeds Rs. 2.5 Lakhs, in the event of order in Indian Rupees

Delivery Time:-3-4 weeks

Encl: As Per Attachment

Sd/-

Mr. D. Ramesh
Purchase Officer-II

Information to Vendors: We are working towards a single platform for our future requirement. Hence, please refer IPR website i.e, http://www.ipr.res.in/documents/tenderseng.html for our future requirement.

LAYING OF HV CABLE, FIBER OPTIC AND SUPPLY AND INSTALLATION OF CABLE TRAY:

1. SCOPE OF WORK:

The scope of work covers supply and installation of cable trays in SST-1 RCC wall, cooling structure, cooling building wall and ITER building wall.
The scope also covers:

i. Supply of cable tray along with support structures made from MS angles bracket (40mmx40mmx5mm) as per drawing#1.The cable tray route is given in drawing#3.MS angle should be applied with anti-rust coating (red oxide) and enamel painting (Grey). This work also includes installation of cable tray on the support structure, bolting the trays to support structure, cutting, bending and joining the cable tray together with bolting splice plates.

ii. Fixing of MS bracket support structure to brick wall (M10, anchor fasteners), RCC column (M10, anchor fasteners).

iii. Fabrication and installation of MS Bridge between cooling building wall and ITER building wall. The distance between both the buildings is approximately 8 meter. The Bridge should be made as per the attached drawing no.#2. The bridge should be made at a height of approx. 9 meter.

iv. HV cable end termination at both end with standard termination kit recommended for HV cable.Details of the HV cable areas per annexure-1.

TABLE1:

Sr.No.	work	price	Quantity required
1.	Supply and installation of Perforated G.I Cable tray of nearly 200mm x50mmx1.6mm	Rs./meter	200meters
2.	Supply and installation of L shape bracket of 300mmx300mm having L shape MS angle of 40mmx40mmX5mm	Rs/no.	250 no.
3.	Laying of HV cable	Rs./meter	300meter
4.	Supply and installation of 40mm HDP pipe	Rs./meter	300 meter
5.	Laying of fiber optic	Rs./meter	300meter
6.	HV cable end termination at both end	Rs./no.	2no.
7.	Supply and installation of MS bridge (as per drawing#2) its length may slightly vary as per site.	Rs/no.	Approx. 8 meter in length

NOTE:

a) Actual length of quantity required may vary slightly; vendor will be paid depending upon the actual quantity used.
b) Actual layout may vary a bit depending upon the site condition

2. TECHNICAL SPECIFICATION FOR SUPPLY AND INSTALLATION OF THE CABLE TRAYS:

2.1 Design requirements

Cable trays shall be manufactured from good commercial, high strength sheet steel and shall be hot dip galvanized after fabrication; cable tray should be fabricated from at least 1.6 mm steel sheet, confirming to IS: 1079/2062. The galvanization should be according to IS-2629 or equivalent standard suitable for indoor/outdoor use having moderate humidity and air pollution.

After all manufacturing process including punching, cutting, bending and welding of cable trays is completed the blurs shall be removed before the application of Galvanization process. The Galvanized trays shall be free from notches/edges and burns etc. The interiors of all types of cable trays shall be smooth and free of any projection that might injure cable sheaths and jackets.

If welding process is employed, the welding surfaces shall be smooth, uniform & free from fins, tears or any other defects which may adversely affect welding.

The zinc coating shall be smooth, clean and of uniform thickness, free from defects like ash, bare patches, black spots, pimples, lumpiness, rust stains, blisters etc. thickness should be according to IS 4759 or latest version of the same.

At both the ends of the cable trays four circulars holes are provided for connecting the adjacent cable tray or accessories / by coupler plates.

2.2 Accessories: All the accessories shall be best fit for use with the cable trays supplied and should be hot dipped galvanized or electroplated after fabrication.

Includes

1. Nut, bolts and washers.
2. Splice plate / Flexible Splice Plate/ Coupler plate pair having 8-hole pattern.
3. Extra thermal Expansion-type splice/Coupler plates along with nut, bolts and washers also to be supplies with the accessories.

3. INSTRUCTION:

i. Approval of IPR person/Engineer in charge shall be obtained for site preparation and marking the cable tray routes and locations of cable tray support before proceeding with the erection and installation work.

ii. The cable trays and the support structures are to be so arranged that they do not obstruct or impair clearance of the passage way or maintenance of adjacent equipment.

iii. All the necessary equipment and tools have to be arranged by the bidder, these includes hydraulic ladder/ladder, welding machines, drill machine, cutting machine etc. for the fabrication and installation of cable tray supports.

iv. For laying cable inside SST-1 hall vendor can use crane present in SST-1 hall wherever is suitable.

v. If cutting of cable tray is required at site the same shall be cut and joined by nuts and bolts with the help of coupler plates or can be welded.

vi. The cable trays can be bolted to the supports and the sharp bends in cable trays are to be avoided.

vii. Inside the SST-1 hall the HV cable and fiber optic should be routed through the ceiling beam (parallel to HV cable of LHCD) with the help of MS L shaped bracket, at a distance of every 1 meter apart. The cable should be brought down to LHCD lab in the same way similar to previously laid HV cable through C clamp.

viii. The ceiling beam height is nearly 15 to 16 meter from ground.

ix. Cable tray (along with HV cable and fiber optic)should be laid on SST-1 RCC beam from outside at a height of nearly 8 meter. Minimum 150mm must be left at the top and bottom of RCC beam. MS L -bracket should be installed at a distance of every 1meter for supporting cable tray.

x. The total horizontal distance to be covered will be nearly180 Meters for cable tray of size 200mm x50mmx1.6mm.

xi. Clear height of 7 meter from road level should be maintained everywhere near any road crossing or wherever required.

xii. The cable tray(along with HV cable and fiber optic) should be laid on the opposite side of their signal cable in cooling structure.

xiii. The cable tray (along with HV cable and fiber optic) should be laid on cooling structure with the help of MS L shaped bracket.MS L shaped bracket should be welded on cooling structure at a distance of every 1 meter.

xiv. The cable tray will then follow the route from cooling structure to ITER building via cooling building and MS Bridge.

xv. The support for the M S Bridge should be derived from cooling building wall and ITER building wall with the help of carry foster/MS angle.The distance between both the buildings is approximately 8 meter. The bridge should be made as per the attached drawing #2. The bridge should be made at a height of approx. 9 meter.

xvi. No drilling in Dry stone cladding is allowed in ITER Building.

xvii. The holes for fixing angles in ITER building wall should be properly sealed.

xviii. The cable tray should be laid on ITER building at a height of nearly 9 meter from ground. The cable tray should be supported with MS L- shaped bracket each fixed at a distance of 1 meter.

xix. The cable will then go inside the ITER building through the hole in glass nearby to Door and will reach inside the ITER building upto AGPS (Acceleration Grid Power Supply area).

xx. The cable should be supported with Clamp wherever required inside ITER building.

xxi. Proper bending radius should be maintained at every turn .Specification sheet of HV cable is given in Annexure -1.

xxii. The HV cable termination at both end should be done with standard kit recommended for HV cable given in annexure-1.The termination should be done by professional having expertise in this field.

xxiii. Electrical power needed for the equipment shall be provided by IPR

xxiv. The transport of the materials to the site will be under vendor's scope.

xxv. Vendor has to quote unit rate of job as Table -1and payment will be done on the basis actual work certified by Engineer In-charge IPR.

xxvi. The bidder may visit the site for general inspection before replying the inquiry.

xxvii. Vendor has to arrange personal safety aids like helmets, shoes and safety belts, aprons and gloves, etc. for working personnel.

xxviii. Vendor should ensure that the material quoted should have equal or higher quality that the standard mentioned.

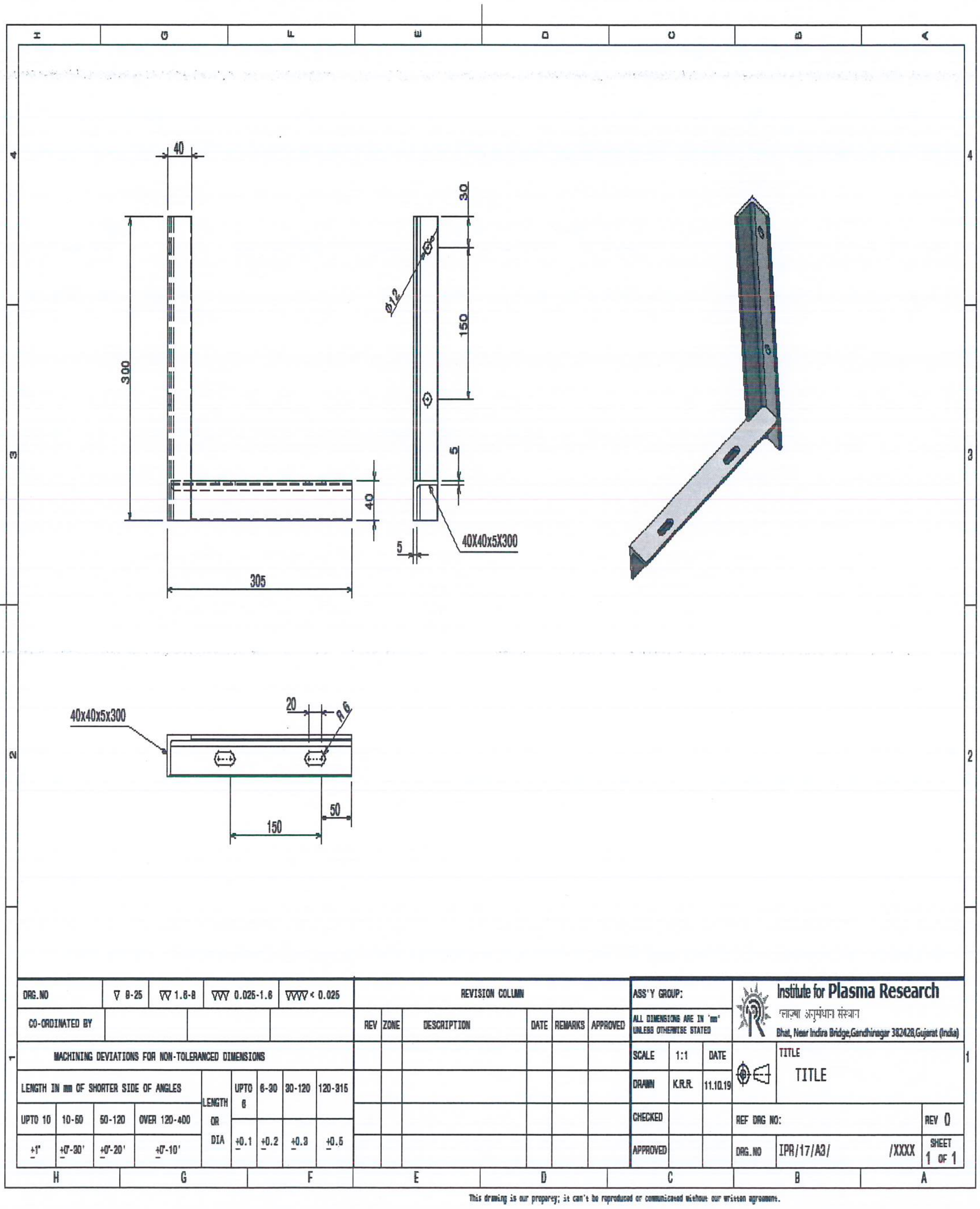
xxix. Packing and forward transportation of cable trays along with their accessories for delivery at customer site the freight and insurance charges will be under vendor's scope.

NOTE: VENDOR IS REQUESTED TO VISIT THE SITE FOR INSPECTION BEFORE QUOTING FAILING WHICH THEIR OFFER WILL BE REJECTED.

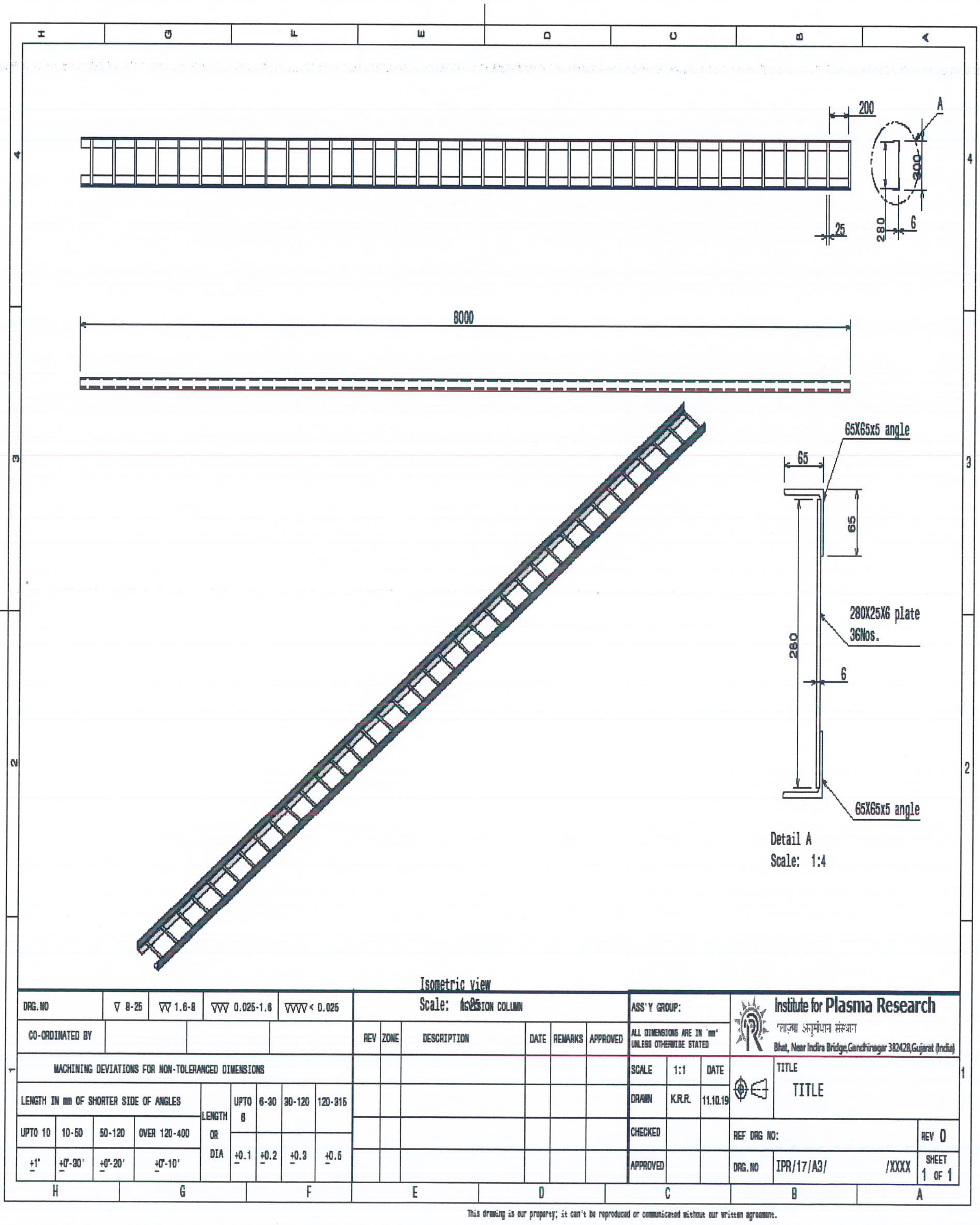
COMPLIANCE SHEET:

Sr.No.	IPR Specification		Quantity required	Vendor specification
1.	Supply and installation of Perforated G.I Cable tray of nearly 200mm x50mmx1.6mm		200meters	
2.	Supply and installation of L shape bracket of 300mmx300mm having L shape MS angle of 40mmx40mmX5mm		250 no.	
3.	Laying of HV cable		300meter	
4.	Supply and installation of 40mm HDP pipe		300 meter	
5.	Laying of fiber optic		300meter	
6.	HV cable end termination at both end		2no.	
7.	Supply and installation of MS bridge (as per drawing#2) its length may slightly vary as per site.		Approximately 8 meter in length	

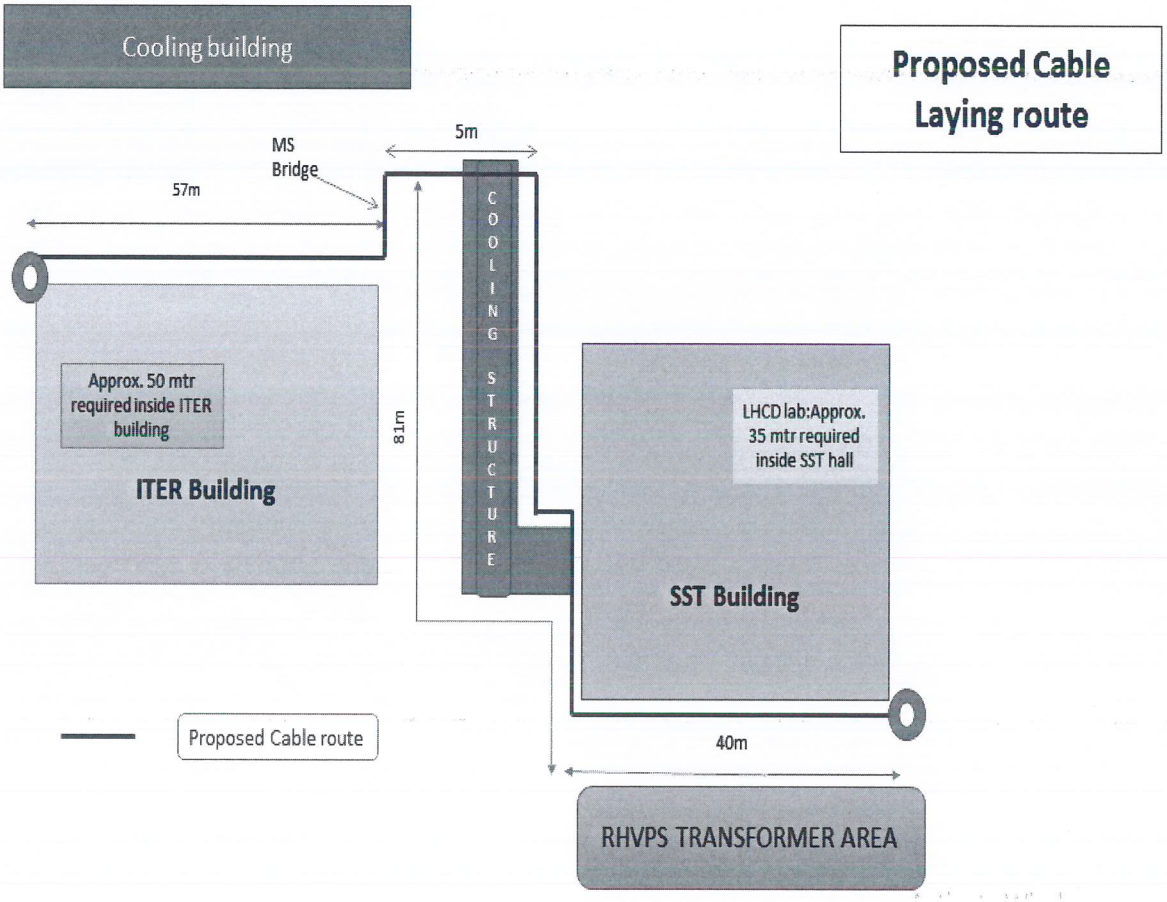
Drawing 1#: MS L-shaped bracket:



Drawing 2#: MS Bridge:



Drawing3#: Route for laying cable tray



ANNEXURE-1

The HV cable which is needed to be laid is 1C X95 19/33 KV XLPE (Havells make) as per IS 7098.

Other details of HV cables are as follows:

Sr.No.	Cross Sectional Area(copper conductor) mm^2	Nominal insulation thickness(mm)	minimum inner sheath thickness(mm)	Nominal Diameter of armor wire(mm)	Minimum Outer Sheath Thickness (mm)	Approx. Overall Diameter of Cable(mm)	Weight(Kg/Km)	Bending radius(mm)
1	95	8.8	0.4	2	1.72	40	2300	800