ODISHA POWER TRANSMISSION CORPORATION LIMITED
(A Government of Odisha Undertaking)
Odisha Distribution System Strengthening Project (ODSSP)
O/O Project Management Unit - 33/11kV
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ODSSP/OPTCL/01/2013-2014 204 Dt.19.12.2013

Corrigendum to Tender notice no.- NIT/ODSSP/ OPTCL/01, Date-25.09.2013

The reply to the Technical Queries of Pre-bid Conference held on 25.10.13 against T.O tender notification no.NIT/ODSSP/OPTCL/01 IS UPLOADED.

The Revised BOQ will be uploaded separately.

N.B:- **i) All the bidders are requested not to submit the Bid Sheet prior to uploading of the Revised Bid Sheet.**

ii) It is requested to visit the website regularly for any **Corrigendum**.

Nilamber 19.12.13

Project Manager (ODSSP)
PMU-33/11 kV, OPTCL

C.C to-
1) Director (Fin.), OPTCL
2) PS to CMD, OPTCL for kind information of CMD.

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REPLY TO THE TECHNICAL QUERIES IN PRE-BID CONFERENCE ON 25.10.2013 AGAINST TENDER NOTICE NO. NIT/ODSSP/OPTCL/01

Sl. No	Ref. Clause No. & of the Tender Document	As per tender document	Clarification of the Bidder	ODSSP Reply
1.	Vol.II, Part-IV, TS: Layout No. ODSSP/SS/1 & SLD No.ODSSP/SS/SLD2	33KV Switchgear having; Incomer Panel – 02 Nos. Transformer Panel – 02 Nos. in AIS as per layout Drg.	Please confirm whether bus coupler panel i.e. required or not for bus section, whereas in 11KV Switchgear Bus Coupler is available. In 33KV Switchgear Bus Coupler is not there as per SLD. Please confirm that the Transformer shall feed the supply to the individual feeders OR the Transformers are both in parallel operation.	There is no Bus coupler at 33kV side. Both Transformers shall be parallel through 11kV Bus Coupler.
2.	Cl.No.1.5, Page 3 of 42, Section-E2 of Vol.II, Part-I of TS	Qualifying requirement of vendors: Type test reports shall be submitted along with the bid.	This clause may be relaxed to the extent that type test reports of equipments shall be submitted along with drawing approval in event of order.	The front page of report showing the evidence of successful type test of the items asked for in our Tender Specification can be uploaded with the signature of bidder. The full text of the type test report is to be submitted at the time of signing the agreement or within one month of LOA.
3.	Cl.No.1, Page-4 of 58 of Section-E4,Vol.II, Part-I of TS, Part-A Scope	33 KV Switchgear (Vacuum breakers,CT,IVT & Disconnect or)	Please clarify & confirm that 33KV VCB switchgear Indoor type shall be without disconnector, since Isolators are separately provided. Also please clarify & confirm that 33KV VT shall be mounted in separate panel.	The 33kV GIS Switchgear shall be with a Disconnector. In case of AIS Switchgear there shall not be any Disconnector. There shall be separate Indoor Panel for IVT.
4.	Cl.No.1, Page-35 of 58 of Section-E4,Vol.II, Part-I of TS, Requirements	11 KV Switchgear (Vacuum breakers,CT,IVT & Disconnect or)	Please clarify & confirm that 11KV VCB switchgear Indoor type shall be without disconnector, since Isolators are separately provided. Also please clarify & confirm that 11KV VT shall be mounted in separate panel.	The 11KV side shall be of AIS switchgear irrespective of AIS / GIS S/S. Hence there shall not be any Disconnector on 11kV side Indoor switch gear. There shall be separate Indoor Panels (2nos.) for IVT at 11kV side.

5.	Cl.No.7(iii), Page-42 of 61 of Section-E5-I,Vol.II, Part-I of TS, Inspecting & Testing	Only one no of transformer of each rating will be subjected to type tests as per relevant IEC/IS in CPRI	Please clarify that the type test reports shall be submitted in event of order is sufficient. No further type test required for each rating of transformer in CPRI for the individual package.	Front page of the Type test report of same voltage class, same ratio (33/11kV) & rating (3.15MVA or higher) duly signed by the bidder is required to be scanned & upload along with the bid. However, designed transformer as per tender specification parameters to be made by the contractor at his cost. Type test to be done designwise not packagewise.
6.	Sl.No.1. at Page-3/16, Scope of Work of Section-E5-VIII,Vol.II, Part-I of TS.	Rating of 33KV AB Switch 400Amps.	As per SLD Drg. No. ODSSP/SS/SLD/2, the rating of 33KV AB switch is 200 Amps. Please confirm the rating of the AB Switch.	The 33kV AB Switch shall be of 200Amp as per BoQ.
7.	Sl.No.1. at Page-3/17, Scope of Work of Section-E5-VI,Vol.II, Part-I of TS.	Surge Arrestor with Discharge Counter	Please clarify & confirm that the Surge Arrestor is with Discharge Counter Insulating Base for 33KV Surge Arrestor only, but not for 11KV Surge Arrestor.	Surge Arrestor shall be with Discharge Counter at Insulating Base on 33KV side only.
8.	Sl.No.10. at Page-8/17, Leakage Current Meter of Section-E5-VI,Vol.II, Part-I of TS.	In case of 33KV Surge Arrestor only		In case of 11KV Surge Arrestor there shall not be any Discharge Counter.
9.	Section E7 of Vol.II, Part-II of TS	AC & DC Distribution Boards 1. Cl.No.2. 415V ACDB 2. Cl.No.2.2. ACDB 3. Cl.No.2.44. Supply of emergency load. 4. Cl.No.3.1. LVAC Scheme 5. Cl.No.3.1.1. Main DB 6. Cl.No.3.1.2. Main LDB	There is no SLD & feeder detail of AC & DCDB in the tender documents. Please provide the same.	The details of AC & DCDB is in chapter E7 clause-14 of TS. The incoming and outgoing feeder requirements have been provided in the specification.
10.	Section-E9 of Vol.II, Part-II of TS.	Part-A: Control Cables	Please confirm that: Control cables are unarmoured type 1.1KV power cables are armoured type. Please provide the technical specification which is not available in the tender documents.	The details of Control & Power cable is in Chapter E9 of TS. Control cables are unarmoured type. Power cables are armoured type. Technical specification LT power cable will be up-loaded.
11.	Sl.No.1.0, Scope at Page 19 of 26, Section-E9 of Vol.II, Part-II of TS.	Part-B: 33KV & 11KV XLPE Cables	Please confirm that the 33KV & 11KV Cables are earthed type.	33KV & 11KV Cables are of un-earthed type.
12.	Sl.No.1 at Page-3/7,	Cross Arms, 'F' Clamps:	Please confirm that the required performance	Considering many bidders' requests,

	Qualifying Criteria of Manufacturers of Section-E10-II of Vol.II, Part-II of TS.	Bidder should enclose performance certificate from the users (electrical suppliers/ utilities/PSUs)	certificate of the manufacturers can be submitted in event of award.	submission of Performance Certificate is not required.
13.	Sl.No.1 at Page-2/9, Qualifying Criteria of Manufacturers of Section-E10-III of Vol.II, Part-II of TS.	Part-A, HT Stay Sets: Bidder should enclose performance certificate from the users (electrical suppliers/ utilities/PSUs)	Please confirm that the required performance certificate of the manufacturers can be submitted in event of award.	Considering many bidders' requests, submission of Performance Certificate is not required.
14.	Sl.No.1 at Page-6/9, Qualifying Criteria of Manufacturers of Section-E10-III of Vol.II, Part-II of TS.	Part-B, Stay Wires: Bidder should enclose performance certificate from the users (electrical suppliers/ utilities/PSUs)	Please confirm that the required performance certificate of the manufacturers can be submitted in event of award.	Considering many bidders' requests, submission of Performance Certificate is not required.
15.	Sl.No.1, Scope of Work of Section-E10-I at Page 3/14 of Vol.II, Part-II TS.	This specification covers design, manufacture, testing and supply of 150x150mm RS Joist 11 Meter long designed for a working load of 34.6kg. The bidder should enclose Performance Certificates from the above users, issued in favour of the Sub Vendor/ manufacturer, as proof of successful operation in field.	Please clarify & confirm that the performance certificates for RS Joist 150x150mm 11 Mtr. long are not required to be submitted along with the tender as we will supply the said materials from SAIL/Rolling Mills, who are the prime manufacturers having non-availability of performance certificate with them. The unit weight of the pole is 34.6 Kg. per Mtr. but not working load. Please confirm. Please confirm that the RS joist 150x150mm poles for transmission line and sub-station are MS type but not galvanized type.	Performance Certificate in respect of 11Mtr RS Joist is not required. Please note that the unit weight of the Pole is 34.6 Kg. per Mtr, but not working load. Thikness of the web shall be 11.8mm. All steel structructes including RS joist for Line & Outdoor structures in Substations shall be Galvanized type.
16.	Sl.No.3, Performance Test at CPRI of Section-E12-VIII at Page 5/14 of Vol.II, Part-III, TS	The successful contractor/ bidder should undertake the testing of termination and jointing kits at CPRI or any Govt. Laboratory.	We shall submit valid type test certificates, but stipulation may be relaxed to do the fresh type test for the package.	If required, OPTCL will do the type test. The transportation charges to type test laboratory and type test charges shall be borne by OPTCL. But if there is significant design difference between the one tested and are to be supplied, the cost of such test to Contractor's account.
17.	Sl.No.2.4.3, Railway Crossing, of Section-E14, Line & Erection at Page 4/78 of Vol.II, Part-III, TS	The crossing shall normally be at right angle to the railway track. In case crossing is required to be done through underground cable, cost of the cable including laying and other accessories shall be in the scope of the contractor.	Please clarify that the cost of cables including laying and other accessories shall be paid to the contractor by the Owner (OPTCL), as per unit rate available in price schedule.	The crossing length will be mentioned in the Price Schedule. In case of qty variation during execution, payment will be done for actual work done on prorate basis.

18.	Sl.No. 14.0.1 SCOPE of Section-E14, Line & Erection at Page 58/78 of Vol.II, Part-III, TS	SUPPLY OF TOWER STRUCTURES FOR THE TRANSMISSION LINES: For easy in transportation all GI joist/ channels should be made into two pieces (6&4, 6&5, 7&6 mts) with jointing GI channels plates etc. as per sample drawing (which is indicative).	Please furnish the sample drawings of GI Joist/ Channels which is not available in the tender document.	Jointing will be allowed where the transportation is not possible and subject to OPTCL approval. Sample drawings as required will be up-loaded. Joints (6mtr + 5 mtr), (7mtr + 4mtr), (6mtr + 7 mtr), (8mtr + 5mtr) are permissible.Jointing is to be done through nuts & bolts by using plates as per the drawings to be uploaded. For Channel jointing please see separately at Sl.No. 20.
19.	Sl.No.5, Section-I, Table-A of Notice Inviting Tender	Project Completion Period: 12 months from the date of issue of LOA	(b) As regarding submission of drawings and approval thereof for equipments and line materials will take more time. Please clarify whether the approval of drawings for equipments are required OR we can purchase the materials/ equipments directly in event of order without taking approval of drawings. (c) Similarly in regard to equipments for sub-station and line materials, please clarify whether inspection at the manufacturer works are to be conducted OR we can procure the same directly. (d) The formalities for dispatch of materials on issuance of Despatch Instruction (DI) from Owner will consume around 03 months being experienced by us. Please clarify whether we will supply the materials directly without issuance of DI.	As regards to the approval of drawing, there shall not be any change in the clause. The materials for which design are uploaded can be purchased directly without taking approval. The despatch instruction will be issued by the Inspecting officers after the inspection at inspection laboratory/site.
20.	Drawings E-22 of Vol.II, Part-IV	(i)T1 Column with beam arrangement, SLD-ODSSP/SS/3 (ii) T2 Column with beam arrangement, SLD-ODSSP/SS/4	Please clarify and confirm that each channel/ leg of column shall be in two lengths/ pieces with jointing arrangement is acceptable to OPTCL as single length of 7.25 Mtr. long is not available with SAIL or in market.	Jointing is not acceptable in substation Column & Beam.
21.	Sl.No.19, Schedule-VIIA, Sub-station of Price Schedule, Package-03	Insulator & Hardware Fittings 70KN Porcelain Disc Insulators-33KV (Tension) at 33KV Gantry, 04 Nos. of Insulators in one string.	(i)The unit is 'Set'. (ii)Please clarify and confirm that we have to consider 04 Nos. Insulators OR 12 Nos. Insulators as 'Set'.	In each 33 kV incoming Feeder bay there will be three tension strings. Each string will contain one tension Hardware set with four disc insulators.

		Unit is set.	(iii) Disc Insulators are normal type (iv) Please confirm that this item is not covered the hardware fittings as there is separate item in schedule.	(1 string = 1set = 4nos of insulators) 3Sets = (12nos of insulators) – Normal / polymer as per BOQ.
22.	Sl.No.99, Schedule-VIIA, Line-Supply of Price Schedule, Package-03	Insulator string set (single tension) (3 Nos. per tower + 6 Nos. per DP) (with polymer insulators) Unit – Sets	Please clarify how many Insulators are required per set.	33 kV tension – 4 discs /string 33 kV suspension – 3 discs/string 11 kV tension – 2 discs/string
23.	Sl.No.100, Schedule-VIIA, Line-Supply of Price Schedule, Package-03	Insulator string set (single tension) (3 Nos. per tower + 6 Nos. per DP) (with porcelain insulators) Unit – Sets	Please clarify how many Insulators are required per set.	33 kV tension – 4 discs /string 33 kV suspension – 3 discs/string 11 kV tension – 2 discs/string
24.		Line Route map of transmission line – Line length is give	We request you to give us following information's: 1) Kindly provide us the exact /surveyed line route map of all lines 2) Pl provide us the list of lines where piling is required necessary	Prelimenenary investigation has been done through Topo sheets. Topo sheets have already been uploaded. The detail Survey will be done by the Contractor. Piling requirement ascertained from joint survey between the bidders and Discom will be uploaded. However, if any change is required after soil testing, the foundation will be adopted accordingly. Payment will be made as per the lowest rate quoted for others Substations by the Contractor on Pro-rata basis.
25.		Missing of LT Power Cable Specification- Price Schedule of S/s VII-A, BOQ Sl no :49 (49.1 to 49.4)	Kindly clarify/confirm that the type of conductor (Al or copper) and these cable of Armored or Unarmed as these details are missing in the specification of the tender documents	Power Cables shall be Aluminium & Armoured type. For details refer Chapter E9 of TS. Technical specification for LT cable will be uploaded.
26.		Missing Vendor for items and technical specifications	As per the OPTCL approved vendor list in the tender documents the following main items are missing : 1) Vendor list of CTs & IVTs, Structures etc 2) Technical specifications of 11 KV CTs and 11 KV VCBs are missing in the tender documents , pl provide the same	The revised Vendor list will be provided. The technical specificationis for Indoor 11 kV CT and 11 kV VCB are available in chapter E4 of TS. There are no outdoor 11kV VCB and 11kV CT in the scope of work.

27.	SCHEDULEVII A_SUBSTAT10 N SUPPLY & MAN DATORY	33kV Bay (I/c + o/g), 33KV Isolator.	We envisage requirement of earth switch on both sides of Circuit breaker. Please confirm whether isolator with earth switch should be considered adjacent to breakers and for line side isolator.	Please refer to the drawing No ODSSP/SS/SLD/1 & ODSSP/SS/SLD/2. Only the line side isolator will be with Earthswitch irrespective of Incomming / Outgoing (33kV & 11kV) line.

28.	SCHEDULEVIIA_LINE SUPPLY	Construction of New 33 KV SIC Line for River crossing with GI PC+ 6 Tower, GI Earth Wire (7/3.15).	As per the unit provided for GI Earth wire in the 1300 is "Km". Please provide unit in KG, instead of Km.	The unit weight of 7/3.15 GI earthwire is 428 kg/km.
29.	SCHEDU LE-VIIA_LINE SUPPLY	Lattice type Switchyard Structures, Foundation nuts & bolts and other GI nuts & bolts as per technical specification	Drawing for following is not provided, 1. GI PC +6 mtrs tower with stubs 2. T-8 with peak & spike-1 no (0.6 MT/unit) 3. T-9 with peak & spike-1no (0.8MT/unit) 4. G4 Beam - 1no (0.306 MT/unit) 5. G6 beam - 2nos (0.406 MT/unit) 6. D.I Structure -1no (0.728 MT/unit) 7. S.I Structure -1no (0.291 MT/unit) 8. C.T Structure - 3nos(0.181 MT/unit) 9. P.I Structure-2nos (0.238MT / unit) Please provide the drawings for above material.	Drawings will be uploaded
30.	SCHEDULE-VIIA_SUBSTAT ION SUPPLY & MANDATORY SPARES	Switchyard GI Structures Column & Beam (with H-Type Pole) for 33kV Class including Foundation Bolts & Nuts	Please provide detail structure drawings.	Column and beam drawings uploaded. The foundation bolt details will be uploaded
31.	Vol If part-4	BUS PT	As per SW Bus, PT is shown. The same is missing in the layout of Control Room Cum Switchgear Building Drawing. Please clarify.	Yes. The PT (IVT) shall be housed in a separate Pannel inside the Control Room. The corrected drawing will be uploaded.
32.	Vol II part-I	Technical specification GIS/AIS/CONTAINERISED	Please provide separate technical specification for GIS/AIS/CONTAINERISED substation.	The same has been provided in chapter E4 of the TS. **However, additional paragraph for GIS S/S will be uploaded.**

33.	Vol 11 part-I 5.2.19 7 of 58	Minimum Creepage distance (mm) - 900MM	The Minimum creepage shall be adequate to withstand the 13IL of the System. 900MM Creepage for 33kV is applicable in Outdoor Switchgear, hence not applicable for Indoor Switchgear. Please Clarify	Not required for indoor switchgear.
34.	Vol II, Part II, Page No 03 & SCHEDULE VIIA SUB-STN	Technical Specification 48V VRLA type storage battery along with Battery charger: Minimum no of cell shall not be less than 24 SCHEDULE VI1A SUB-STN : 48 V, 100 Al-I, maintenance free VRLA Battery (Set. 4 Nos of 12V Battery)	Which type to be used? Please confirm.	4nos. Batteries each 12V, 100AH maintenance free VRLA type shall be used.
35.	Vol II part I 1.2.15.0 4 OF 10	Creepage Distance of 580MM.	33kV the Minimum Creepage for Outdoor shall be 900MM. Please confirm.	Agreed for 900MM.
36.	Vol II part I Cl 8.1 5 OF 10	The clearance in open air shall be as follows, unless the apparatus is impulse tested after complete assembly. Point i)Minimum clearan-ce between phases: 505 mm. Point iii)Minimum clearance between live parts and ground objects :1400 mm	Point i)As per IEC the clearance shall be 320MM, whereas as per the Type Tested design the Clearance shall be 420MM Point iii)As per IEC the clearance shall be 320MM, whereas a as per the Type Tested design the Clearance shall be 520MM Please confirm.	As per type tested equipment
37.	Vol 11 part I Cl 20	Protective relay	The requirement is general in nature and not clear as to provide which protection to which feeders. Please clarify the Specification per Feeder in the SLD or give Specific 130M of each feeder.	Clarified in the revised SLD which will be uploaded.

38.	*Volume-II/Price Schedule*	Quantity of Items — Nil /Blank /Zero /Null	In Some Items of Price Schedule / BOQ Qty shown Nil /Blank /Zero /Null. Please confirm if the bidder needs to quote unit price for the same.	Bidder need shall not quote where Nil /Blank /Zero /Null is there.
39.	**Queries on Power Transformer (3.15 & 5MVA)**			
40.	Cl. 2 Point No. 21 for 3.15 & 5MVA Power Transformer	Flux Density - 1.5 Tesla	Standard – 1.6 to 1.7 Tesla Considering flux density 1.5T, the design will be costlier.Since core grade used is HIB Grade 1.6T flux density is normal practice.	As per tender specification.
41.	Cl. 2 Point No. 31	Current Density - 2.4Amp./Sq. mm	Standard – 3Amp. / Sq.mm Since Losses are fixed and temperature rise is controlled by providing radiators fixing current density at lower value of 2.4A/sq. mm should not be mandatory.	As per tender specification.
42.	Cl. 2 Point No. 39(a)	HV coil to Tank length side – 65mm	Standard – 45mm Kindly confirm if we can consider the standard industry practice.	As per tender specification.
43.	Cl. 2 Point No. 39(d)	Core Yoke to Tank Bottom – 55mm	Standard – 25mm Kindly confirm if we can consider the standard industry practice.	As per tender specification.
44.	Cl. 2 Point No. 39(h)	Core – LV – 12.5mm	Standard – 11mm Kindly confirm if we can consider the standard industry practice.	As per tender specification.
45.	Cl. 2 Point No. 39(f)	LV-HV Hi Lo – 20mm	Standard – 17mm Kindly confirm if we can consider the standard industry practice.	As per tender specification.
46.	Cl. 2 Point No. 39(g)	HV-HV Ph.Clearance – 20mm	Standard – 17mm Kindly confirm if we can consider the standard industry practice.	As per tender specification.
47.	Cl. 2 Point No. 39(e)	Yoke Insulation Top-Bottom – 130m	Standard – Top = 35mm, Bottom =35mm	As per tender specification.

			Top Ring = 40-50mm i.e. Total = 35+35+(40-50) = 120 to 110mm Since Design & Engineer is continuous process.Kindly confirm if we can consider the standard industry practice.These will help us to cost effective & compact design.	
48.	Cl. 7 winding point point 7.1.4	Interlayer Insulation shall be Nomex/epoxy dotted kraft paper	Standard – For Oil type Transformer PCPB cylinder are used for interlayer insulation. Nomex/epoxy dotted kraft paper is used for dry type Transformer. Kindly confirm if we can consider the standard industry practice	Only EPOXY dotted kraft paper shall be used. Nomex or PCPB shall not be used.
49.		Price sheet No.1 of package -1	Price sheet for Package No.1% Schedule VITA Substation, there is a formula error, Grand total is not coming. P1 correct the formula ec upload the revised price sheet	There is no formula error.
50.	Vol II(TS), E8-Battery & Battery Charger	E8-Battery & Battery Charger (Page 10 of 22), the rating of battery charger is mentioned as 15 Amp single phase, whereas in the price schedule the same is mentioned as 100 Amp.	We request to confirm the exact requirement of battery charger.	Battery capacity is 100 AH VRLA type. Battery charger is of 15 Amp float charging capacity & 20Amp for Boost charging, suitable for 48V DC 100 AH VRLA battery. Input to Charger shall be 220V AC supply.
51.	Vol II(TS), E8-Battery & Battery Charger clause 3.1	As per clause 3.1 (Page 11 of 22) it is mentioned that the charger should be suitable for 415V, 3 phase	Please confirm the exact requirement of battery charger	Input to Charger shall be **single phase 220V AC supply**.

52.	E-1 1.1 (c), (d), (e)	CVT for 33kV GIS / AIS and 11 kV AIS	PT can be provided instead of CVT	Bus IVT (PT) is proposed. CVT will not be accepted.
53.	E-1 1.1,Important note	Whenever the source .....construct ion of bays.....Engineer in	Please mention whether feeder differential protection feature is required for the feeder from existing S/S to proposed S/S.	**Not** required.

		Charge		
54.	E-2 3.0	Soil data	We would like request you kindly to provide us the soil data if available with you.	Contractor's responsibility.
55.	E-2 8.0	Mandatory spares	We would like to request you kindly to provide a list of such items in order to keep all the vendors at par	Manadatory spares list is already there in the Price Schedule. They shall be procured from the same vendors from whom sub-station/line materials and their parts have been bought.
56.	E-2 9.0	Training	Please mention number of Employers person to be considered and number of days for Training 1. Indoor/outdoor major equipment 2. Operator familiarization Installation and commissioning technique	As per section 9.0 of E2-(General Technical Clauses) each training shall be of 7 days duration. No of employees will be equal to number of sub stations.
57.	E-3 1.0(7)	Variation in frequency	Frequency variatiion has been mentioned as 2.5%, please confirm	Confirmed.
58.	E-4 1.0	This specification covers design, Dimension of Type Tested equipment is only be accepted.	Please clarify the meaning of "Dimension of Type Tested equipment is only is accepted."	Dimensions of the object / equipment as mentioned for which Type test has been done are to be supplied.
59.	E-4 -17.1	Type test	Whether we have to conduct type test for the equipment has to be performed or type test of similar voltage class is acceptable	Type tested equipment/materials are acceptable. Type tests should have been conducted in last five years. The Type Test must have been as per OPTCL requirement. If OPTCL desires another type test, it has to be conducted. In such case OPTCL will bear the transportation of equipment/material and type test charges.
60.	E-4 -28.2	Transformer differential relay	As maximum rating of Transformers are 5MVA, please mention whether Transformer differential protection is required.	Differential protection besides REF protection is required for 3.15MVA, 5.0MVA & 8.0MVA Transformer.
61.	E-4, Page 48, Part-B, 7.1	Auxiliary contacts to be 6N0+6NC	Will be as per manufacturing standard	Contact multiplication relay can be used to achieve the same.
62.	E-4 Page 48, Part-B, 11.3	Basic technical requirement for CT's	Please mention knee point voltage to be considered.	Knee Point Voltage shall be 400V for both 33kV & 11kV CT. Maximum excitation current at Vk=25mA
63.	E-4Page 48, Part-B, 12.2	Type Test of CT	We shall furnish Type test certificate for similar CT	Acceptable provided the Type test are valid & all the tests are conducted as

				per tender specification.
64.	E-4 Page 48, Part-B, 27.0	Tests	We shall furnish type test certificate for similar circuit breaker	Acceptable provided the Type test are valid & all the tests are conducted as per tender specification.
65.	E5-11I- Page 10 of 10, 33kV VCB(Outdoor) - 17.0	Maximum ambient temperature to be considered as 60°C	As per clause no.1.0, point no.14 (E-3System Climatic Conditions), design ambient temperature is 50°C. Please clarify whether we should consider ambient temperature as 50°C or 60°C	Max ambient temperature 50°C as per clause 2.0 of E3-System and climatic Condition.
66.	E5-1I- Station Transformer Page 17 of 31 - 26.0	Type test as indicated at clause-28..... same design approval	If type test certificate of same design is not available in that case we request you kindly to consider transformer with same rating.	The offered transformer shall be type tested if not done during last 5 years.
67.	E5-11- Station Transformer Page 20 of 31-29.0A	The purchaser reserves ..... all tests ..... service conditions.	Please mention the name of the tests.	Precommissioning test. If any defect observed in the parts or during precommissioning test, the corresponding detailed tests will be done.
68.	E12-II under Vol-II (TS) Page 5 of 13.7	Test during manufacturing	We will submit Routine Test Certificate along with Inspection Call.	Acceptable to OPTCL.
69.	E23 General	Make of Equipment	We will supply the equipment from reputed manufacturers who are approved in other Govt organization (CPWD, NBCC, IOCL etc) / Utility Board WBSEDCL, BSEB, JSEB etc) conforming to the specification provided.	To be provided from the Vendors furnished in the specification and amendments if any. For those items, for which vendor list is not available, prior approval of OPTCL is to be taken.
70.	General	Inspection of material at Manufacturer Premises	The cost of Travelling, Lodging & Fooding of client's personnel, during inspection at Manufacturer premises will be taken care of by the client.	OPTCL will bear such expenses.
71.	Volume -II, Part: IV - Technical specification	E-23 -Vendor List of Major Bought Out Items	Approved Manufacturers of steel mentioned is TATA/SAIL/RINL. We request you to kindly consider rolling mills which use ingots of TATA/SAIL/RINL for rolling of Steel.	The materials which are manufactured by SAIL/TATA/RINL shall be bought directly from them. The company name shall be embossed on the material. For other materials, Rolling mills using SAIL/TATA/RINL ingots is accept-able. Intermittent inspection will be made by OPTCL.
72.	Price Bid, Schedule - VIIA: Supply of Equipments	Item with Sl. No. 51 - cable trench	The layout drawing does not indicate Cable trench but Supply Price Schedule contains	Cable trench will be indicated in the Lay out drawing.

	/Materials (SUBSTATION)		this item.	
73.	Price Bid, Schedule - VIIA: Supply of Equipments /Materials (SUBSTATION)	Sl. No 40, 42, 43, 44	Kindly Provide Drawing of Sl No 40, 42, 43 & 44 i.e for DP, cable termination arrangements etc.	Sl 42 – Installation of power transformer on the plinth – Pls refer to drawing No ODSSP/CIVIL/4 Sl 43 & 44 – 33 kV and 11 kV XLPE cable – Cross sectional views will be uploaded. Cables to be supplied as per Tender Specification.
74.	Price Bid, Schedule -VIIA Supply of Equipment /Materials (SUBSTATION-LINE)	Item with Sl. No. 86.1 CT Console Box	Kindly Provide Technical specification of CT Console Box.	Will be provided.
75.	Price Bid, Schedule - VIIA: Supply of Equipments /Materials (SUBSTATION)	Sl.No 2 and Sl.No 9.	Layout Drawing does not indicate Tandem Isolator. Kindly confirm requiremnet of the same & also provide Technical specification.	All isolators sill be with tandem pipe for better strength and operation. The drawing will be uploaded.
76.	Price Bid, Schedule -VIIA Supply of Equipment/Materials (SUBSTATION-LINE)	Sl.No 61 - 33 KV Circuit Breaker with C&R Panel	Kindly Provide Technical specification and list of approved manufacturer for the same. The description of this item indicate that you require an Outdoor CB with protective realys and metering in the kiosk with bought out bushing suitable for jumper connection. Please confirm	The technical specification for Indoor VCB is provided in Section E5-III. The vendor list of outdoor VCB will be uploaded.
77.	Price Bid, Schedule -VIIA Supply of Equipment /Materials (SUBSTATION-LINE)	Sl.85- 33KV Control & relay Panel (Simplex)	Please confirm this is indoor or outdoor type and the availability of space in the existing Control Room for control & relay panel.	It will be Indoor type at Source s/s where control room is available otherwise Outdoor type. It will be reflected in revised BOQ.
78.	Existing Substations		Layout of Tapping Point of substation is not given. Please provide the same.	They are to be assessed by the bidders during sites visit of bidders with DISCOM Engineers.
79.	Existing Substations		Kindly Provide details of equipments along with make in existing substations.	Bidders can obtain the information during site visit.
80.	Existing Substations		Please confirm availability of Source AC/DC for Protection System along with availability of outgoing feeders.	AC source will be from the Station Transformer. DC will be from battery where available. Otherwise Power-pack is to provided in the C/R Panel. See the Revised BOQ.
81.	E-8 ,Volume -II: Part -II -	Control & Relay Panel	Time synchronisation equipment is not	Not required

	Technical specification		mentioned in BOQ. Please confirm requirment of the same.	
82.	Sl. No 5 to 7, Price Bid, Schedule -VIIA: Supply of Equipments/Materials (SUBSTATION), Drawing No: ODSSP/SS/SLD/2 and Volume -II: Part -I, Technical specification of Indoor switchgears for AIS	33KV Vacum Circuit Breaker Panel (Inddor)	As per BOQ and Technical Specification Current rating of 33KV VCB of Indoor switchgears is 630A while as per SLD Current rating of 33KV VCB of Indoor switchgears is 1250A. Kindly confirm Correct current rating of VCB.	Current rating 630 Amp. Single line diagram will be modified.
83.	Sl. No 5 to 7, Price Bid, Schedule -VIIA: Supply of Equipments/Materials (SUBSTATION), Drawing No: ODSSP/SS/SLD/2 and Volume -II: Part -I, Technical specification of Indoor switchgears for AIS	33KV Vacum Circuit Breaker Panel (Indoor)	As per SLD 2 core Current Transformer has been shown in 33KV VCB Panel and as per Technical Specification it is 3 Core (0.2, 5P20, 5P20). Kindly confirm number of Core and Class of Core of Current Transformer. Also please confirm for diffrential protection whether you required PS or 5P20 class.	3 core CT now shown in the the single line diagram. Class of core is as per tender specification
84.	Sl. No 10 & 11, Price Bid, Schedule -VIIA: Supply of Equipments/Materials (SUBSTATION), Drawing No: ODSSP/SS/SLD/2 and Volume -II: Part -I, Technical specification of Indoor switchgears for AIS	11KV Vacum Circuit Breaker Panel (Indoor)	As per BOQ Current rating of 11KV VCB of Indoor switchgears is 630A while as per SLD and Technical Specification Current rating of 11KV VCB of Indoor switchgears is 1250A. Kindly confirm Correct current rating of VCB.	Current rating is 630 A. Single line diagram is revised accordingly.
85.			We propose to participate in 5 to 6 packages in the above Ph-I tender. The total quantity of Substations is given districts. The quantity of Substations district-wise is not given in the document.	District wise names of substations are uploaded.
86.			The secondly SLDs for AIS and GIS are given in the volume-II (Technical specifications). But the length (qty) of 33kV incoming and 11kV out going line is not mentioned.It would be helpful if the distance of the nearest respective 33kV Substation, wherefrom these incoming lines have to be drawn. Similarly, the length of 11kV out going line to be taken from the price more accurately. However, we would survey the sites, prior to submitting	The incoming lines have to be drawn from Tapping point/ Existing 33/11kV structures. It has been decided that The length of 33kV incoming is not more than 30KM and the 11kV outgoing is not more than 20KM. For details of site, TOPO & Map, please visit OPTCL web site for the same. As decided in the Pre-bid, joint site visits between prospective bidders and

			the bids.	DISCOMS have been done. Detailed survey will be done by the contractor after placement of LOA
87.			It is mentioned that a tentative BOQ is prepared by M/s OPTCL. But this is not furnished anywhere in the documents. Request you to forward the web link for the same, for initial estimations.	Available in the Bid Price Schedule of the Tender.
88.		Public Utility, Tree cutting etc	These miscelleneous work shall be in whose scope of work.	These are in Contractor's scope
89.		River crossing for Towers	As many times underground conditions at this moment is known in case we face a situation wherein river has to crossed how we are going to settle the rates.	The Bidders can ascertain the River Crossing from Topo Sheet and BOQ. If there is variation in length, payment will be made for actual work done on Pro-rata basis for stringing.
90.	Volume II - Technical Specification. Cl No. -1.5, General Technical Requirement	For all items covered under the scope, the manufacturer should have production facility in India for atleast three years from the date of bid opening	Kindly confirm whether this clause is applicable for imported items also.	As per the tender specification, equipment manufactured in India will only be accepted.
91.	Sl No. 57.4. Lot 1-Schedule VIIA SUBSTATION		Receptable panel near power transformer	Refer the technical specification for Distribution Board. Receptacle panel will be used for transformer filtration purpose. It is a outdoor panel.
92.	Sl No. 18. Lot 1-10-Schedule VIIA LINE		TS for 33KV polymer Pin insulator is not available	Refer chapter E12 – IV of the TS
93.	Sl No. 45 Lot 1-10- Schedule VIIA LINE		TS for 11KV polymer Pin insulator is not available	Refer chapter E12 – IV of the TS
94.	Lot 1-10-Schedule VIIA LINE		Please provide detailed specification for both 33KV/11KV River crossings.	The lattice tower drawings will be uploaded
95.	Sl No. 105 & 106-Lot 1 & 2-10-Schedule VIIA LINE		TS for Compression Type Single Tenson H/W fitting for 148 sq.mm. AAAC. (Both for DP &Tower) is not available	For DP, it will be bolted type tension fitting whose technical specification is uploaded. In river crossing tower, compression type hardware fitting will be used. Its drawing will be uploaded.
96.	Sl No. 106 & 107 -Lot 1 &2-10-Schedule VIIA LINE		TS for Compression Type Double Tenson H/W fitting for 148 sq.mm. AAAC. (For Tower) is not available	-do-
97.	Sl No. 116 &		TS for Compression type	It will be uploaded

	117 -Lot 1 &2-10-Schedule VIIA LINE		tension fiting for earth wire including two nos. of flexible Cu. Earth bond (25 x 750 mm) per each fitting is not available	
98.	Sl No-2 Lot 1 to Lot 10-Schedule VIIA LINE		Weight of 11Mtr 150x150 RSJ pole (34.6Kg/Mtr) will be 0.3806MT. But in Price schedule 0.402MT has given. Please clarify.	Weight of joist – 380.6 kg Weight of cleats – 22kg Total 402.6 kg
99.	Sl No-5 & 6 Lot 1 to Lot 10-Schedule VIIA LINE		Weight of 1No. Clit (65*65*6 mm, 400 mm long) will be 0.00232MT. But in Price schedule 0.00464MT has given. Please clarify.	It is 0.00232 MT per cleat. For two cleats in one pole it is 0.00464 MT
100.	Sl No-7 Lot 1 to Lot 10-Schedule VIIA LINE		As per Specification given, the Pole Top Bracket (F Clamp) shall be made out of 75 x 10 MS Flat and as per drawing (ODSSP/SS/6), the 100x50 channel 125mm long to be welded to pole on all sides. Please clarify and confirm the exact requirement.	100mm x 50 mm x 5 mm G.I Channel will be used in Joist poles and flat will be used in PSC pole.
101.	Lot 1 to Lot 10-Schedule VIIA LINE		In Technical Specification of 33KV & 11KV Line & Erection" clause no.6.0.2, All DP & Four pole structures shall be earthed by providing two nos. pipe earthing. But in Price schedule Pipe earthings are not covered. Please clarify.	Pipe type earthing (two numbers will be included in the price schedule)
102.	Sl No-29 Lot 1 to Lot 10-Schedule VIIA LINE		Please provide Drawing no.-ODSSP/LINE/4 for 11KV 'V'-Cross arm	Both 33 kV and 11kV cross arm will be of the same size channel. The lenth of the channel will be as per the drawing to be uploaded.
103.	Sl No-41 Lot 1 to Lot 10-Schedule VIIA LINE		Technical Specification is given for 11KV 45KN Polymer Disc insulator, but in Price schedule 70KN given. Please clarify.	It shall be 11kV 70KN.
104.	Sl No-128 & 130 Lot 1 & 2 to Lot 10-Schedule VIIA LINE		Confirm the size of conductor Whether 148mm^2 AAAC or 100mm^2 AAAC	Size of Conductor 148mm^2 AAAC in 33 kV line and 100 mm^2 AAAC in 11 kV line.
105.	Sl No-3 & 4 Lot 1 -Schedule VIIA LINE		In Price schedule, S.No.3 & 4, 33kv AB switch 2 times repeated actually in S.No.4 it should be 33kv HG fuse for station transformer	It is correctly mentioned in the price schedule. Sl 3 is for AB switch and Sl 4 is for HG fuse.
106.	Sl No-7 & 13 Lot 1 - Schedule VIIA LINE		For 33kv & 11kv IVT, Tech. Specification given for outdoor, whereas in price schedule it is mentioned as "in separate drawout chamber inside	The IVT, irresepective of 33kV & 11kV, will be indoor type in a separate panel.

			control room". Please clarify.	
107.	Lot 1 -Schedule VIIA LINE		33kv control and relay panel not given in price schedule "CONSTRUCTION OF 33kV New Bay at Tapping Point at DISTCOM". Please clarify.	Site visits have already been done. The requirement of 33kV CR Panel will be relected in revised BOQ.

108.	1.0 Scope of Work.1.1 f) Page 2 of 4	Control & Relay panel with Multifunctional meter	Since the scope of job has only 11KV AIS & 33KV AIS/GIS panels, the requirement of CRP seems to be superflous as both relays and the required metering can be accomodated in the LV compartment of the 11/33KV switchgear panels.	There is requirement of 33 KV CRP where the 33kV Feeder bay will be emanated from the existing 33/11 KV sub-station / 132/33kV Grid S/S having Indoor control relay Panels. Outdoor Control Pannel will be required where there is no control room.
109.	1.0 Scope of Work.1.1 k) Page 2 of 4	Outdoor 33KV VCB	Since the scope of job has only Indoor 11KV AIS & Indoor 33KV AIS/GIS panels, the requirement of Outdoor 33KV VCB requires clarity.	33 KV VCB (outdoor) proposed shall be used, where the bay will be emanated from the existing 33/11 KV sub-station.
110.	Volume II part I / 5.0 , Page No 58 of 298	CIRCUIT BREAKER (VCB): 33 KV	Pls note that in GIS the VCB is fixed type enclosed in the SF6 gas tank. Hence withdrawable facility is not applicable in GIS & this applicable is mainly applicbale for AIS type breaker. We will provide our standard breaker in conjunction with 3-position switch.	Agreed
111.	Volume II part I / 5.1. Page No 59 of 298	Interrupting media Vacuum:	In GIS, since the CB is enclosed in the SF6 gas tank, hence no facilities is available for monitoring the contract erosion and any change in contact gap, however we have repair opening for any kind of maintenance at site only.	Agreed
112.	Volume II part I / 11. Page No 62 of 298	INTERLOCKS	Mentioned Interlock shall be read with 3 position switch disconnector (ON-OFF-EARTH) in GIS. Service-test-isolated position is not available in GIS	Agreed
113.	Volume II part I / 12.Page No-62 of 298	SAFETY SHUTTERS	Not applicable for GIS	Agreed
114.	Volume II parts I / 14. Page No 63 of 298	AUXILIARY SWITCH AND AUXILIARY PLUG &SOCKET	Additional contact shall be made available by using contact multiplier relay.	Agreed. By using contact multipier relay.
115.	Volume II part I / 16.2.4 Page No.64 of 298	Current Ratio: 400-200/1-1-1 Amp No. of Cores: 03 Burden: 15 VA for each core	Due to space limitation in GIS (600mm width) the mentioned VA burden cannot be possible to match. The maximum burden shall be provide 7.5VA, however we suggest that CT data shall be finalized during detailed	As per tender specification.

			engineering.	
116.	Volume II part I / 18.0 Page No.65 of 298	Rated normal burden for VT's-(Core-I/II) - 50VA/15VA	Maximum Burden can be provide 15VA for both the core.	Each Core shall be 15 VA.
117.	Volume II part I / 18.8 Page No. 68 of 298	Fuse Protection	Fuse Protection is not applicable in case of GIS, since the VT's are directly plug-in type with disconnecting switch. It's a special type of VT suitable for GIS only.	Agreed
118.	Volume II part I / 20.0.Page No.69 of 298	PRESSURE DISCHARGE FLAPS	Not applicable for GIS	Agreed
119.	Volume II part I / 21.0 Page No.69 of 298	BUSBARS	In GIS busbars shall be in SF6 / solidly insulated.	Busbars, VCB, Disconnector shall be in the SF_6 Gas chamber.
120.	Volume II part I / 21.0 Page No.70 of 298	CABLE COMPARTMENT	In GIS Cable compartment cover is interlocked with disconnector switch & CB. Therefore, unless the earth switch & CB is closed we cannot opened the cable compartment door which ensures more saftey.	Agreed
121.	Volume II part I / 41.0 Page No.86 of 298	QUALIFYING REQUIREMENT	Following Type Test Report will be submitted: 1) Short Time withstand current 2) Temperature Rise 3) Lightning Impluse Test 4) Internal Arc Test 5) Make & Break Test duties All above tests are done already and shall not be carried out, in case they are older than 5 years, our design did not change since the date of the type tests. Then we do not need to repeat type tests.	The following further tests should have been done.- Power frequency voltage test, Partial discharge test, Resistance measurement test, Tightness test, Closing characteristic test, Opening Characteristic tests. The switchgear shall of M2, C2 & E2 duty class.
122.	Specification for Outdoor containiser sub station (E house)	1.0 Scope	Please note Outdoor Isolators,Surge arresters are not used in E House	Outdoor isolators and surge arresters will be provided for incoming & outgoing line. Since transformers will be installed outdoor, Surge Arresters will be provided near the transformer.
123.	Specification for Outdoor containiser sub station (E house)	2.0- Enclosure rating and design	Switch room shall be manufactured with IP 54 enclosure	Agreed
124.	Specification for Outdoor containiser sub station (E house)	2.1-General Construction	Battery and Battery charger room to be kept separate enclosure	To be placed inside the same Container, but in a separate chamber.
125.	Specification for Outdoor containiser sub station (E house)	2.1-General Construction	Enclosure shall be made of Galvanised steel sheet with 275 GSM.	Should be Al Zinc Hot dip coating 275g/Sq mtr.

126.	Specification for Outdoor containiser sub station (E house)	3.1-Welding	Welding shall only be applicable in Baseframe	Agreed
127.	Specification for Outdoor containiser sub station (E house)	3.2 Shell	Outer shell of the E House shall be made of 1.6 mm GI Sheet steel and assembly of enclosure shall be done through clinching technology.	Agree, but with 3mm thick and alu-zinc coating 275 g/sqm.
128.	Specification for Outdoor containiser sub station (E house)	3.4 Side and End Walls	External walls are to be joined with 1.6mm thick GI sheet and through clinching technology. No welding shall be applied for joining side and end walls.	Agree, but with 3mm thick and alu zinc coating 275 g/sqm. Jointing through clinching technology / Robot welding / CNC turrat punch press are acceptable.
129.	Specification for Outdoor containiser sub station (E house)	6.0 Insulation	E Houses will be insulated on sides,end walls and doors with 50 mm thick Rockwool/PUF	PUF insulation
130.	Specification for Outdoor containiser sub station (E house)	7.0 Inner Panneling	For side, roof and end walls panelling will be done with 1 mm thick galvanised sheet.	Minimum 3 mm thick sheet steel with Alu zinc of 275GSM.
131.	General	Scope	Our scope shall be limited to supply of 11 / 33 kV switchgear only strictly as per BOM submitted, unloading at stores / site or any other site activity shall not be in our scope our battery limit shall end at communication port of numerical relay & MFM. However we shall provide per deim charges for supervision of erection, testing and commissioning.	AS per tender specification.
132.	Pg - 48 of Portion - E4 of TS	Standards	CODES AND STANDARDS: The offered equipment is designed and manufactured as per latest IEC-62271-100/200. Please note that the offered equipment confirms to all the mandatory clauses as recommended by the new IEC-62271-100/200	As per latest amended IEC.
133.	Pg - 48 of Portion - E4 of TS	11KV Circuit breakers	We have offered our Global Design of panel type "ZN1" with cassette mounted VCB Type "Vind" design, where the breaker movement is through wheels inside the cubicle. Please note that, the distinct advantage of cassette mounted design is that, operation (rack--in/rack-out) of the line PT shall be independent of CB rack-in/rack-out operation in same panel below CB compartment it will greatly minimise footprints, so we have not considered seperate LPT panels	There is no line PT in the scope. Bus IVT will be in a separate chamber.

134.	Pg - 48 of Portion - E4 of TS	11KV Circuit breakers	Please note that special Alu-Zinc material is used for switchgear cubicle which is corrosion resistance and the thickness of the same shall be 2mm.	3mm thick as per specification.
135.	Pg - 48 of Portion - E4 of TS	11KV Circuit breakers	Please note in the offered deign of the panels we have provided with automatic safety shutters i.e on withdrawl of the breakers the shutters shall automatically operate to cover the contacts.Further pl note since we are offering metal clad design with LSC - 2B category all the compartments are electrically & mechanically segregated from each other.Hence it is possible to work on the busbar compartment being completely isolated from the breaker compartment.	Agreed
136.	Pg - 48 of Portion - E4 of TS	11KV Circuit breakers	There shall be positive indications for TEST/SERVICE position; However isolated position is indicative by the open door itself; hence no separate indication for the same is provided.	Agreed
137.	Pg - 48 of Portion - E4 of TS	11KV Circuit breakers	The overvoltage factor during switching shall not exceed 3 PU.	Overvoltage during switched does not exceed 2.5 pu.
138.	Pg - 48 of Portion - E4 of TS	11KV Circuit breakers	The thickness of silver platimg shall be 5 microns.	10 micron
139.	Pg - 48 of Portion - E4 of TS		Our breakers is type tested for mechanical endurance class - M2 tested for 10,000 mechanical operations	As per latest IEC
140.			Since in some Vacuum interrupters the contacts are made of copper chormium which is a very hard metal & doesnt get eroded easily during it life hence contact erosion does not take place in such Vacuum interrupters. Therefore contact erosion indicator is not required. Also please note since the bottles are sealed forlife hence it is not recommended to do any contact gap resetting in the same.	Agreed
141.	Pg - 48 of Portion - E4 of TS	Operation & Control	We have mechanical push button on the breaker for tripping of the CB. We do not envisage any further emergency manual trip switch on the panel. Please note the ON/OFF push button shall be	Agreed. There shall be a separate switch for electrical operation of the VCB.

			on the breaker. No separate local control cabinet is considered.	
142.	Pg - 48 of Portion - E4 of TS	Current Transformer	Please note that the Class of insulation for CT's shall be CLASS E or better. The CT/PT's shall be cast resin epoxy type and shall be either window or would type. Please note that the CT/PT burden, accuracy, ISF shall depend upon CT/PT manufacturers standard design constraints, but suitable to meet the load requirement. Also pl note CT ratios considered are as mentioned in spec & SLD.We have not considered as per 120% of rated current of breaker.	Epoxy Resin Cast type.
143.	Pg - 48 of Portion - E4 of TS-Page no-14-12	Type test	Routine tests for B/O: Routine testing of bought out equipments shall be carried out by respective vendor and test certificates shall be furnished for your approval along with our test reports. We do not envisage further testing of bought out equipments.	But acceptance test to be done in presence of the Owner's representative.
144.	Pg - 48 of Portion - E4 of TS.Page No-13	Potential Transformer	The voltage transformers shall be cast-resin type and it shall be Drawout type ; for Line PT we have not considered separate Panel as we are providing cassette mounted design .The VA buden etc shall be as per manufacturer standard however suitable to meet the load requirement.	There is no line PT. Bus IVT (PT) will be in separate panel. Burden will be 15VA for each Core.
145.	Pg - 48 of Portion - E4 of TS.Page No-19.4	Temperature rise	In line with this clause temprise above ambeint shall be as specified in relevant IEC standard 62271-200/100 i.e end temp for silver plated joints shall be within 115 deg cel.	As per tender specification with silver plate joint.
146.	Pg - 48 of Portion - E4 of TS-Page No-20	Relay	Comments separately enclosed.	Protection relay shall be of numerical type & IEC 61850 compliant.
147.	Pg - 48 of Portion - E4 of TS.Page No-22.2	Panel wiring & accessories	Panel wiring voltage shall be 1.1KV Class	Agreed
148.	Pg - 48 of Portion - E4 of TS.Page No-22.3	Panel wiring & accessories	Please note that PT & all control wiring will be 1.5 Sq mm & CT wiring will be 2.5 Sq mm. Rest confirmed & closed	CT, PT & all other control wiring shall be 2.5 Sq mm.
149.	Pg - 48 of Portion - E4 of TS.Page No-24	Colour & numbering	The coloring & marking shall be as per our standard format.	As per Tender specification.

150.	Pg - 48 of Portion - E4 of TS.Page-27.6	Permisibble voltage	Operating voltage (control supply) range shall be 85% to 110% for spring charging motor & closing coil, 70% to 110% for Tripping coil.	Agreed
151.	Pg - 48 of Portion - E4 of TS.Page no-27	Test	Type tests: We have already done type testing of offered switchgear.as per IEC 62271-200 All the type test reprots (not certificates) as per IEC 62271-200 will be submitted during DE, we don't envisage repeating any type tests Further some reports may be older than 5 years, as we have not chnaged any design we do not envisage any such repeatition of test, cost of any such test is not included in base offer. From saftey point of installations We request to include type test report of Seismic (Zone-V) in mandatory type test report	If not more than 5 years, the same type test report is acceptable. The type test shall be as per IEC/IS.
152.	General	General/ Internal arc rating	Tender documents do not claify on Current rating & duartion required for arc fault ABB recommends the most stringent being rated for 25 kA for 1 sec. We hereby request you to consider an fully tested arc proof solution to prevent Hazards to persons and risk of fire & specify inetrnal arc rating of 25 kA for 1 sec via Addendum	Internal Arc withstand for 11kV & 33kV VCB must be 25kA for 1 sec.
153.	General	Scope / earthing	We shall provide earthing truck without making capacity with PT, audio –visual indication through Hooter and indicating lamps and solenoid interlock to prevent closing of bus side earthing truck on live bus bar.	Agreed
154.	General	VA rating of CT	VA rating of CT shall be as per burden calculations.	As per tender specification.
155.	General	Signals in remote	All the signals going in DCS will be hard wired through IPRS (Plug in type without flag, base mounted)	Through hardwire.
156.	General	Annunciation scheme	Please note that indications of faults will be provided in numerical relay by LED flashing We do not envisage any common anunciation panel of the switchbaord	Individual switchgear panel will have Annunciator & will have annunciation facility.
157.	General	Aux relays	All contact multiplication breaker contact multiplication, connected to master trip relays etc will be multiled by plug in type electrically resettable aux relays without flag	No, all multiplication of contacts shall be through Auxiliary Relays.

158.	General	Relays/ Trip circuit supervision	Please note that trip circuit supervision will be part of main numerical relay	TCS shall be provided separately.
159.	General	Makes of boughtout items	Please find attached our approved make list, please approve same at your end	As per the Vendor list in the tender specification and amendments if any.
160.	General	Cable termination	Please clarify no of cables terminations in different types of feeders	Cable terminations: Out door- At 33 kV incoming isolator, 33 kV and 11 kV transformer side, 11 kV out going feeder isolator. Indoor- All transformer panels and feeder panels of 33 kV and 11 kV..
161.	General	Packing	Please note that packing of offeres switchgear is suitable for indoor storage only.	It is the responsibility of the contractor.
162.	General	General/ Internal arc rating	1. For safe maintenance we recommend for all VCB opearions (close/ open/trip & rack in rack out) shall be close door without inserting hand inside panel through any flaps 2. We recommend to specify door handle to single shot latch type, bolted construction of door shall not be acceptable 3. Closing & tripping coils shall be rated for continuous supply, so that burning issues of CC & TC shall be avoided 4. To increase relaibility of breaker & to make breaker maintenance free, breaker poles shall be encapsulated inside epoxy housing 5. Bus bars shall be provided with sleeves which should be rated for full system volatge, bare or PVC insulated busbars should not be acceptable , ABB requst OPTCL to specify above points via addendum.	It is a standard practice & all manufacturer to abide by this.
163.	27.1, Page 18 of 58 Vol-II/E-4	Relay shall have 3 phase directional and non-direction (site selectable feature) over current and earth fault protection. It shall have three stages with first stage programmable as IDMT or DT. The second and third stages shall be programmable as DT or instantaneous.	Four Stage of Direction O/C Protection Stages - Feeder Protection Relays shall have 3 Stages of Directional O/C protection. Further there shall be One More Stage of Non-Directional Instantaneous O/C protection.	As per tender specification.

164.	27.1, Page 18 of 58 Vol-II/E-4	Relay shall have 4 shots auto reclose function built-in	Please clarify whether Auto -Reclose function is required for all Feeders?	Yes
165.	28.2, Page 19 of 58 Vol-II/E-4. Page No-28.2, Page 19 of 58	Over Fluxing (24) Protection	Generally required for Large Pwer Trafo. Pls clarify the requirement of U/F protection.	It is standard protection of transformers. The input to this relay is the secondary IVT supply. However setting will be decided at the time of commissioning.
166.	28.3.3, Page 20 of 58 Vol-II/E-4	The relay shall have a back light LCD display.	Whether relays are required with Large Graphical display to facilitate the display of MIMIC Diagram?	As per tender specification. MIMIC diagram is not required.
167.	28.3.5 (a), Page 20 of 58 Vol-II/E-4	The relay should have 4 independent time delayed Directional O/C stages which can be selectable either as directional or non-directional.	Feeder Protection Relays shall have 3 Stages of Directional O/C protection. Further there shall be One More Stage of Non-Directional Instantaneous O/C protection.	**For O/C Relay-** Stage- 1 & 2 can be used either a DT or IDMT characteristics. 3rd & 4th Stage shall be with Instantaneous Definite Time. However, directional or non-directional features are site selectable as per Tender specification.
168.	28.3.5 (b), Page 20 of 58 Vol-II/E-4	Additionally there shall be four non-directional earth fault stages	Offered Feeder protection relays shall have 3 Stages of Directional E/F protection, which can be either set to operate as Direcrional or Non-Directional.	**For E/F Relay-** Stage- 1 & 2 can be used either a DT or IDMT characteristics. 3rd & 4th Stage shall be with Instantaneous Definite Time. However, directional or non-directional features are site selectable as per Tender specification.
169.	28.3.5 (c), Page 21 of 58 Vol-II/E-4	The relay shall have five CT input to take care of transformers applications where Restricted Earth fault and standby earth fault is required.	Offered Feeder protection relays shall have 4 CT inputs. E/F CT shall be suitable for connection to CBCT or Residual Connection., Further, E/F setting available is from 1% to 500% of CT Secondary for Low Stage and 10 % to 4000% of CT Secondary for High/Instantaneous Stage.	As per tender specification.
170.	28.3.5 (g),3 (i), Page 22 of 58 Vol-II/E-4	It shall be possible to view the current voltage phasors as well in the graphical mimic display.	Current & Voltage phasors can be view in Laptop/PC using Web HMI feature of relays.	MIMIC display is not mandatory. It can be viewed by using Laptop.
171.	28.3.5 (g),3 (viii), Page 22 of 58 Vol-II/E-4	Harmonics of current and voltages which shall be possible to view as a diagram on the display.	Is this requirement is to display harmonics in the display of relay ?	Display of harmonics in relay is not mandatory. However, it can be viewed by using Laptop.
172.	28.3.5 (g),3 (ix), Page 22 of 58 Vol-II/E-4	Relay should be able to measure the true RMS value up to 15th harmonics	Please clarify that the requirement is THD 15TH Harmonics?	As per tender specification.

173.	28.3.5 (g),5, Page 22 of 58 Vol-II/E-4	The relay shall have a facility to have communication on IEC61850 protocol through redundant rear port for SAS connectivity	Pls clarify the type of Rear Ports required. RJ45 or FO?	Agreed for both (i.e. RJ45 or FO)
174.	28.3.5 (g),5, Page 22 of 58 Vol-II/E-4	The relays shall generate GOOSE messages as per IEC 61850 standards for interlocking/tripping and also to ensure interoperability with third party relays.	Transfer time of Goose Messages for Interlocking/Tripping should be less than 10 msec as per IEC61850 Standard .	The relay shall generate goose message as per IEC 61850
175.	28.3.5 (g),7, Page 23 of 58 Vol-II/E-4	The Relay shall have facility for Time synchronization on IRIG B port.	Whether Time Synchronisation over SNTP Protocol is acceptable instead of time Synchronisation through IRIG-B Port ?	As per tender specification
176.	29,Page 24 of 58 Vol-II/E-4	Necessary hardware and software for automatic up-loading the data captured by disturbance recorder to the personal computer.	No Automatic Uplaoding shall be possible in PC/Laptop.	No automatic uploading is required. Downloading from the relay memory to the computer memory will be done
177.	29,Page 25 of 58 Vol-II/E-4	Shall have feature of two nos. of independent REF protection for two winding power transformers.	Generally two nos independent REF protections are required for a transformer with Star/Star configuration. In this tender the transformers are Delta-Star and hence REF on the Secondary side is only possible.	As per tender specification
178.	29.1.1,Page 25 of 58 Vol-II/E-4	Homopolar component filter, which is used to remove the Homopolar component from the phase currents.	Requirement is not clear.	Homopolar is DC component and the relay shall have the filter component.
179.	29.1.1,Page 25 of 58 Vol-II/E-4	2nd, 4th and 5th harmonic restraint features	4th Harmonic restraint Feature is not available in Differential relay.	2nd and 5th harmonic restraint features are required.
180.	29.1.7,Page 25 of 58 Vol-II/E-4	Shall have feature of v/f (24) protection of different stage setting	Generally V/F (Over Fluxing) is required for Large Power Trafo with Voltage regulation. Pls clarify the application/type of the trafo.	Already clarified.
181.	29.3.3,Page 26 of 58 Vol-II/E-4	The unit temperature measurement supervision needed(Optional).	Please clarify	To know transformer oil and winding temperature. It is **optional**.
182.	29.3.4,Page 26 of 58 Vol-II/E-4	The Battery voltage supervision needed	Please clarify	DC supply supervision is required
183.	29.6,Page 27 of 58 Vol-II/E-4	Closed terminal needed for 12 current inputs and three voltage input.	Please clarify	6 CT input for differential and 2 CT input for REF.

184.	4 33kV Switchgear E4- Part A,Technical Spec	The cubicle shall be of bolted construction with minimum thickness of 3.0mm for load bearing & cable entry gland plate portion and for other non-load bearing members such as inter compartment partition etc can be of 2.0 mm.	The cubicle shall be of bolted construction with minimum thickness of 2.0mm for load bearing & cable entry gland plate portion and for other non-load bearing members such as inter compartment partition etc can be of 1.5 mm as per the type tested panel for internal arc.	3 mm for load bearing & 2 mm for other.
185.	41.Qualifying Requirement,Technical Spec	Qualifying Requirement: The equipment offered shall be procured from short listed vendor at E-23 and shall have been successfully TypeTested during last five years on the date of bid opening.The Type Test reports shall be submitted along with the bid.	Proposed further addition of "Minimum product experience or field performance of the product offered should be of three years from the date of tender opening.	As per tender specification.
186.	5.3,Technical Spec	The vacuum circuit breaker panels shall be enclosed in sheet steel independent floor mounting cubicle made of 3 mm thick CRCA Sheet for outer walls including cable entry gland plate and 2 mm thick for non-load bearing partition/ inside walls suitable for coupling with identical units on either sides to form switchboard.	Proposed to add " or as per the panels that has been passed successfully in Internal arc test and had minimum three years of field experience."	As per tender specification
187.	6.2,VCB,Technical Spec	The vacuum circuit breaker poles shall be sealed to prevent contamination of the spaces surrounding the interrupters.	The vacuum circuit breaker poles shall be sealed for life type and open pole design for better air circulation and heat dissipation.	As per tender specification
188.	Part-C , Clause 2.1,General description,Technical Spec	The E-room shall accommodate 33 kV and 11 kV Switchgear panels containing VCB (630A), CT (630A), disconnector (630A), IVT, bus bar 800A inside GIS chamber and Battery and Battery Charger, ACDB, DCDB , RTU etc	The E-House need more robust, safe against accidental touch, insensitive to external enviornment and modular circuit breakers that are different than the conventional GiS or AIS. It also need to be compact enough in terms of its footprint to save the urban land.The maximum current rating considering 8 MVA transformer with continious over loading will be 157 and 472 Amp respectively on 33 and 11	630A for both 11kV & 33kV equipment and 800 Amp for bus-bar inside E-house. Outdoor Isolator shall be of 1250A.

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			KV side. Hence for optimisation of the offer and standardisation of the network all the MV equipmets both of 33 and 11 KV should be 630Amps.	
189.	Part-C , Clause-1,SPECIFICATION FOR OUTDOOR containiser sub station (E-HOUSE),Technical Spec	The containiser substation (Out Door E-House) will have all equipment of Indoor GIS subastaion in an portable E-House.	As above	As above.

190.	Item Nos. 12 & 39	HT Stay Set – GI HT Stay Wire 7/10, 0.015MT per stay.	Please note that as per standard practice the GI wire required for 11mtr./10mtr. support structures is 8.5kg per stay and for 9mtr./8mtr. support structures is 5.5kg per stay. The requirement of 15kg. per stay is on the higher side. We request you to review the requirement and confirm the quantity.	As per site requirement. Maximum 15 kg/set.
191.	Item Nos. 12 & 39	HT Stay Set – GI HT Stay Wire 7/10, 0.015MT per stay.	Please confirm whether the requirement of stay sets for guarding arrangement is covered under the quantity of stay set given under these items.	Separate stay set as per site requirement
192.	Item Nos. 22 & 49	Anti climbing Device with Barbed Wire	Please confirm whether the anti climbing device using barbed wire shall be provided with clamps for holding the wire or only wire is required under this item. Kindly provide the drawing for this arrangement.	Anticlimbing devices with clamps at both end are to be provided. Fencing will start at a height of 2.5 mtr from ground level and will continue in an helical manner to a height of 3 mtr with a pitch spacing of 50 mm.
193.	-----	Earthing for Structures	The GI wire required for connecting the steel structures for 33KV & 11KV lines to the coil earthing is not appearing in the schedule. Request you to provide the quantity & size of GI wire required for earthing.	Earthing coil will be directly connected to the pole. Hence, no need for extra G.I wire.
194.	-----	Earthing for DP	As per standard practice the DP structure is provided with 1Nos. Pipe type earthing. The item of pipe earthing is not appearing in the BOQ. Please confirm the requirement.	Will be included in the BoQ.
195.	Item Nos. 25, 26, 27, 28	11mtr. RS Joist and 10mtr. PSC Poles	As per standard practice we are using 8mtr. 200 KG. PSC poles for 11KV line work in our various RGGVY & RADPRP projects in Odisha and other states. The requirement of 11Mtr. RSJ and 10 Mtr. PSC poles seems to be on higher side. We request you to review the requirement and confirm.	For better ground clearance, higher size being adopted.
196.	-----	500x500x10mm Plate	The requirement of this item is missing under	Cleats will be provided in RS joist.

			activity of construction of 33KV I/C Linking line. Please confirm.	The plate will be provided for PSC pole. All the above are there in BOQ.
197.	Item Nos. 80 & 81	33KV D/I with E/S & S/I without E/S	Please provide the detailed specifications for these items.	Will be uploaded.
198.	Item No. 14	RTU & Accessories for SCADA Compatibility with PC and connection.	Please provide the detailed specification & requirement against this item.	Specification provided. BoQ will be up loaded.
199.	Item No. 15 Package-14	Container (E-House)	Please provide the exact list of equipments to be installed in this E-House (Container).	Please check BOQ & Control room and Switch yard drawing.
200.	A-Electrical Works, Item No. 48	Cable Trench	As per BOQ, the trench is to be provided with ladder type trays. As per Vol-II, E15, Cl.9.1, Pg.13, Perforated cable trays are to be provided. Please confirm.	Ladder type trays will be provided.
201.	B-Civil Works, Item No. 4	Civil Works for Cable trench	As per Vol-II, E15, Cl.9.1, the cable trench shall be of brick masonary. The quantity of brick masonary work is not appearing in the schedule. Please confirm.	1st class KB masonry / Ash Brick in cable tench and also in compound wall.
202.	B-Civil Works, Item No. 4	Civil Works for Cable trench	As per Vol-II, E15, Cl.9.1, the cable trench shall be provided with base RCC of 75mm thickness. However as per drawing the base RCC is of 100mm. Please confirm.	125mm PCC.
203.	B-Civil Works, Item No. 14	Switchgear cum control Room	Whether rate is to be quoted under item no. 14 or break-up of various items under 14.1 to 14.28	Break up prices given in BOQ are to be quoted.
204.	Vol-I, Sec-II, ITB, Cl. 4.1, Technical Qualification	The bidder, as a Principal Contractor (not as a Sub-Contractor), must have successfully erected, tested and commissioned at least 05 nos. of 33/11 kV or higher voltage class Sub-Stations (having Transformer Capacity of 3.15 MVA or above) on EPC Contract / Turnkey Contract basis for any Distribution / Transmission Utility during Last Five Financial Years preceding to the year of NIT for AIS S/S.	In line with this clause, we understand that the substation works of 33/11KV I/C & O/G transformer Bay and feeder bays consisting of supply, installation, testing and commissioning of 33/11KV 3.15MVA Transformer, VCB, Indoor CRP, Isolators, HG Fuse, CT-PT, LA's, bay & equipment structures, foundation of structures / transformer / equipments, cabling & earthing is acceptable. Please confirm.	If 5 nos 33/11 kV transformers (3.15 MVA or above) with incoming / outgoing bays with equipment and CRP have been done through EPC/turnkey as Principal contractor, then qualifying criteria is fulfilled. For details refer clause 4.1 of Section –II of Vol-I
205.	Schedule-VI Schedules in XLS format	GTP & Type Test Reports	We request you to allow us to submit undertaking letter furnishing that all equipments shall be as per specifications	GTP shall be filled and uploaded by the bidder. Front page of Test certificate duly

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			provided by you. In the event of order, GTP & Type Test Reports shall be submitted.	signed by the bidder and will be uploaded by the bidder in their Bid submission.
206.	VOL-II(TS) E5-VIII	AB SWITCH	Kindly confirm that specification of 33kV 400A AB switch shall be applicable for 33kV 200A AB Switch. If not, please provide specifications for 200A AB Switch.	In the specification, in place of 400 A, it may please be read as 200A.
207.	VOL-II(TS)		Kindly provide specifications for ACSR Zebra conductor	Will be uploaded
208.	VOL-II(TS) E7	DISTRIBUTION BOARD	Kindly provide specifications for CT console box, BMK and Receptable panel	Will be uploaded
209.	VOL-II(TS) E5-IV	CURRENT TRANSFORMER (OUT DOOR)	Kindly furnish specifications for 33kV C.T of ratio 400-200-100/1A, single phase CT.	Provided in Section E5-IV of TS.
210.	VOL-II(TS) E4	SWITCHGEAR AIS & GIS	Kindly confirm that specification of 33kV 1250A and 11kV 1250A AIS panel shall be applicable for 33kV 630A and 11kV 630A AIS panel respectively . If not, please provide specifications for 33kV 630A and 11kV 630A AIS panel.	It is 630A for 33kV & 11kV Indoor Switchgear irrespective of AIS & GIS. But Busbar is 800A.
211.	Vol-II(TS) E5-I-Power Transformer, PG.22 of 61	Technical specifications provided are not feasible	Technical specifications provided are not visible, kindly provide revised specifications	It is in the website of Tender wizard (www.tenderwizard.com) & website of OPTCL (www.optcl.co.in)
212.	Vol-II(TS) E5-I-Power Transformer,PG.43 of 61,Clause 7 Inspection And Testing, point (viii)	Type Tests	As mentioned, OPTCL may use power analyser for determination of various losses and impedance. We understand that the operation charges and other charges (if any) will be borne by OPTCL. Kindly clarify.	The charges for Type test of the Transformer shall be borne by the Contractor.
213.	E5-III-33kV VCB(OUTDOOR) ,5.0.a pg.5 OF 10	Control Cubicle: The cubicle shall be of gasketed weather proof construction, fabricated from sheet Aluminum alloy sheet having minimum 3 mm thick.	The offered Cubicle shall be fabricated using CRCA Sheets of thickness 2.5 MM.	As per tender specification.
214.			Whether construction of power will be supplied at one point of each Sub-Station kindly confirm, If quality and power is not suitable for welding and other erection works is not available, the owner will reimburse the cost of running of DG set supplied by contractor. Kindly Confirm.	Arranging Construction power & water for their use is the responsibility of the bidder during construction of the sub-station & line. Construction power for construction of Bay at OPTCL Grid shall be facilitated by OPTCL.

215.			We request you to provide us the SBC of soil and pile capacity with different diameter of piles with cut-off level and termination level.	Control room drawings for three types of soils will be provided. The contractor will do the soil test and one of these three drawings will be adopted. The price to be quoted as per the BoQ quantity, but payment will be made as per actual work done depending on soil test report.
216.			Pl. inform us the approximate height of land filling for each sub-station.	Switchyard should be 2 feet above the road level / surrounding area. Control room shall be 2feet above the switchyard level. Filling/cutting volume is mentioned in the Price Schedule.
217.			If the foundation is found safe for isolated foundation without pile as per soil report, whether pile will be necessary for construction of Control Room Building, boundary wall and Transformer foundation. Pl. confirm.	Out of the three drawings to be uploaded, one of them will be with Pile foundation and other two with isolated (Open cast) foundation.
218.			Whether line survey to be carried out by the contractor?	Yes. Detail survey will be carried out by the Contractor.
219.	In Page 6 of 61 (E5-1-Power Transformer) In Page 35 of 61 (E5-1-Power Transformer) 6.11.3		Sl. No. 18 says Range of Taping is +5% to -15% in 9 equal steps of 2.5% each on HV winding. Says OFF LOAD CHANGER shall have taps ranging from +5% to -10% in 7 equal steps at 2.5% each on HV Winding.	The Tap range shall be from +5% to -15% in 9 equal steps of 2.5% each on HV winding.
220.			Whether there will be stage inspection for transformers only final inspection need to clarified .ONLY OPTCL inspector will go or 3rd party inspector will accompany.	There will be both stage inspection as well as final inspection for Transformers. The inspection shall be carried out by a 3rd party agency as well as OPTCL / DISCOM.
221.	Technical Queries (WATER COOLER WITH WATER PURIFIER SYSTEM)		The Technical specification of water Cooler with water purifier system is not available in TS.	It has been decided that Bidders should bought for Aquagurd (Classic) water Purifier.
222.	Approvals of GTPs and Vendors		We request you to accord us general approval for GTPs and Vendors if we have obtained for a particular product of a vendor instead of making it compulsory to obtain	The supplied materials have to be as per GTP furnished by OPTCL. Approval is to be taken where the

			approval of GTPs and vendors specifically. This will enhance the efficiency of procurement to feed uninterruptedly the erection works.	GTPs of the materials are not provided by OPTCL.
223.			The Tank of the offered 33kV GIS shall be fabricated using 3MM Stainless Steel (Robotic Welding) which is sealed for Life time and degree of protection IP-67.	Relevant latest IEC to be followed.
224.			Aluzinc is a Material which is used by some of the switchgear manufacturer's to fabricate the AIS / GIS panel, whereas IEC do not specify any specific material to be used for fabrication of AIS / GIS Panels. It the descrition of the Switchgear manufacturers to decided upon the material to be used for fabrication of AIS / GIS panels.	Sheet Steel used for fabrication shall be cold rolled carbon annealed only and fabrication shall be done through CNC turret punch press and CNC Bending machine. Sheet steel shall be of Aluzinc material without painting.
225.	5	Page 5 of 58 - The Circuit Breaker (VCB) shall be mounted on a Withdrawal Truck which shall roll out horizontally from service position to isolated position with ease and it shall also be possible to take out the breaker truck from cubicle smoothly on to the floor.	33kV GIS: This clause in not applicable as the VCB in GIS is Fixed Type. As per This clause it is clear that the only VCB shall be provided in 33kV GIS insulted with SF6 Gas.	Withdrawable truck for AIS and fixed type for GIS.
226.		It is preferred to provide with guides for withdrawal and insertion of truck into the cubicle with ball bearing arrangement on the TOP of the Truck.	This can be a design of Some of the manufacturer, moreover IEC donot specify any specific design to be used for Insertion and Withdrawal of VCB from Test to Service or Service to Test Position, this arrangement is different for each manufacturer and shall be left to the switchgear manufacturer.	As per the design & type tested of the 33KV GIS.
227.		6 of 58- All the 3 Interrupters of individual phases shall be fully encapsulated. Circuit Breaker shall be of Vacuum type only. No Separate fiberglass sheet barier to be used.	33kV GIS: This clause in not applicable as the VCB in GIS is Fixed Type and Mounted inside the stainless tank insulted with SF6 Gas.	As per the design & type tested of the 33KV GIS.
228.	5.1	6 of 58 -The Vacuum Bottles shall be easily replacable on site.	33kV GIS: This clause in not applicable as the VCB in GIS is Fixed Type and Mounted inside the stainless tank insulted with SF6 Gas. The Stainless Tank is sealed for Life time.	Agreed3

229.	5.2.19	Minimum Creepage distance (mm) - 900MM	The Minimum creepage shall be adequate to withstand the BIL of the System. 900MM Creepage for 33kV is applicable in Outdoor Switchgear, hence not applicable for Indoor Swgr.	Acceptable
230.	10	DC Supply Voltage : 70% - 120%	As per IEC the Voltage variation shall be as given below: Tripping : 70% - 110% Closing : 85% - 110%	Agreed
231.	11	Interlocks	33kV GIS: This clause in not applicable as the VCB in GIS is Fixed Type and Mounted inside the stainless tank insulted with SF6 Gas. The Stainless Tank is sealed for Life time.	As per design & type tested GIS equipment
232.	12	Safety Shutter shall be metallic and shall be provided to cover up the fixed High Voltage contacts on Bus Bar.and cable side when the Truck is moved to Test / Isolated postions	33kV GIS: This clause in not applicable as the VCB in GIS is Fixed Type and Mounted inside the stainless tank insulted with SF6 Gas. The Stainless Tank is sealed for Life time.	As per design & type tested GIS equipment
233.	13	Fixed and Isolating Contacts	33kV GIS: This clause in not applicable as the VCB in GIS is Fixed Type and Mounted inside the stainless tank insulted with SF6 Gas. The Stainless Tank is sealed for Life time.	As per design & type tested GIS equipment
234.	16.2.4.10	Insulation level for 33kV - 70kV rms / 170kV peak	33kV GIS: As per standard design of all the GIS Manufacturer the CT used are LT CT's and Mounted on Bushing / Cables. Hence this is not applicable for 33kV GIS.	Relevant latest IEC to be followed.
235.			As you are aware that the 33kV GIS is a compact device and hence the all the parameters fo CT / PT like Ratio / Burden / Calss of Accuracy / etc. shall be discussed in the event of an order during detail engineering.	CT - 15VA for each Core PT - 15 VA each Core
236.	18.1 / 18.2	The VT Supplied under this specification shall be of Indoor Single phase Polycrete Complying to IEC 185	As per the Standard design and practise the offered CT / PT for 33kV AIS / GIS shall be of Cast Resin Type only.	Resin cast Epoxy type.
237.	21	Bus Bar	33kV GIS: As per latest technology available, our GIS has Touch Proof Solid Insulated Bus Bars providing highest operator safety, ease of installation on uneven floor and most importantly no gas handling at site, which translates into quick & easy installation with maintenance free operation	Should be type tested in line with the latest IEC.

238.	23	Bus & Cable Earthing	33kV AIS: Cable Side Earthing shall be achived through an Earth Switch, Bus Side Earthing shall be achived using an Earthign Truck.	As per tender specification. For both AIS & GIS, Bus side earthing is not required.
239.			33kV GIS: Cable Side Earthing shall be achived through an Earth Switch, Please calrify the requirement of Bus Side Earthing (is it Required)	
240.	27, 28, 29, 30	Protection Relays	The requirement is general in nature and not clear as to provide which protection to the which feeders. Kindly clarify the Specification per Feeder in the SLD or give Specific BOM of each feeder - 33kV AIS / GIS.	Already available in clause 27 and 28 of Chapter E4 of TS.
241.	28.3.5.f	Under Frequency / Over Frequency / ROCOF	The offered 33kV AIS / GIS & 11kV AIS is to be intended to be used for distribution network, and hence the use of Under Frequency / Over Frequency / ROCOF is not justified. In view of above we request you to kindly specify the purpose / Scheme for this requirement.	Will be required for load management.
242.	28.3.5.g.7	IRIG B PORT for Time Synchronisiation	Time Synchronisation using IRIG B port becomes complicated as the No of Cables per relay increases along with Aux. equipments like GPS Clock, Multipliers etc. Moreove the Maintancnce of all the associated coaxial cable becomes difficult.	IRIG B or SNTP
243.			IEC 61850 protocol has advantage and the time synchronisation is done SNTP Protocol, the server itself is used for time synchronisation and hence the complication reduces.	IRIG B or SNTP
244.	29.6	Closed Terminal needed for 12 Current Inputs and Three Voltage inputs.	As per Tender the requirement is for 8MVA, 33/11kV Trafo, Generally Trafo Differential is required for Trafo. Rated above 10MVA. Hence this is not applicable for the present requirement.	Differential relay should have atleast 6 CT terminals for differential & 2 CT terminals for REF.
245.			As per Technical Specification the requirement is for 2 Winding Transformer. Incase if differential relay is required for same then relays with 6 Nos. CT input shall be suffice to take care to the requirement. Relays with 12Nos. CT Inputs will increase the overall cost.	Differential relay should have atleast 6 CT terminals for differential & 2 CT terminals for REF.
246.	31	Type Test	As per Tender Specification the requirement is for IEC - 61850 protocol Relays and Type Test	As per IEC 61850 for communication

			required as per IS, this is contridactions The relays shall be Type Tested as per following Standards: IEC 61850 – Communications IEC 60255 -Insulation / Dielectric / EMC / Mechanical / Enviornmental etc.	 Agreed Agreed
247.	SLD	Dimension of AIS / GIS	33kV AIS: 1200 MM (width) X 3200 MM (Depth) X 2350 MM (Height) 33kV GIS : 600 MM (width) X 1600 MM (Depth) X 2350 MM (Height)	Max size 33kV AIS: 1200 MM (width) X 3200 MM (Depth) X 2350 MM (Height) 33kV GIS : 600 MM (width) X 1600 MM (Depth) X 2350 MM (Height)
248.	SLD	BUS PT	33kV AIS / 33kV GIS: As per SLD Bus PT is shown, same is missing in the Control Room Cum Swgr Building Drawing. Hence the Bus PT (Fixed Type) shall be Mounted in one of Trafo. Outgoing Feeder.	Bus PT (IVT) is to be installed in separate Indoor Panel.
249.		To be Included in the Tender Specification	Many vendors have done type Testing on the products manufactured in the Europe and will supply the Products manufactured in the Indian Factories. Hence the Product from where it is send for Type Testing should be supplied from the same facotry.	Products manufactured in India and duly type tested at KEMA, CESI, PHELA, CERDA, KERI can be acceptable. Only Indian products.

250.	5.3		Metal Shutters.	required
251.	5.5	The connecting terminal for cables shall have silver platting of at least 50Microns.	Please clarify this, as such all the manufacturers do silver platting which is in the range of 2 - 3Microns only. The larger the Thickness the chances of peel off are more.	10 micron
252.	10.3.4	CT STC - 25kA / 1 Sec.	AS per Clause no. 11.3.9, the STC shall be 25kA / 3 Sec. Please clarify.	It is 25kA for 3 sec.
253.	13.2	The VT Supplied under this specification shall be of Indoor Single phase Polycrete Complying to IEC 185	As per the Standard design and practise the offered CT / PT for 11kV AIS shall be of Cast Resin Type only.	Resin cast Epoxy type is also acceptable.
254.	20	Protection Relays	The requirement is general in nature and not clear as to provide which protection to the which feeders. Kinldy clarify the Specification per Feeder in the SLD or give Specific BOM of each feeder.	The CT core for protection requirement will be shown in single line diagram. The revised drawing will be uploaded.

255.		SLD: Dimension mentioned for 11kV AIS are 800 MM (W) X 1800 MM (D)	The dimensions shall be left to the switchgear manufacturers. Our Dimensions shall be 800 MM (W) X 2090 MM (D) X 2220 MM (H)	Maximum size 11 kV AIS - 800 MM (W) X 2100 MM (D) X 2220 MM (H)
256.		BUS PT	As per SLD Bus PT is shown, same is missing in the Control Room Cum Swgr Building Drawing. Hence the Bus PT (Fixed Type) shall be Mounted in one of Trafo. Outgoing Feeder.	IVT (PT) shall be mounted on a separate Panel. Revised Control room drawing with panel will be uploaded.

257.	1.2.15.C	Creepage Distance of 580MM.	33kV the Minimum Creepage for Outdoor shall be 900MM.	Agreed
258.	5.0.a	Control Cubicle: The Cubicle shall be of Alloy sheet having min. 3MM Thick.	Aluzinc is a Material which is used by some of the switchgear manufacturer's to fabricate the Outdoor panel, whereas IEC do not specify any specific material to be used for fabrication of GIS Panels. It the descrition of the Switchgear manufacturers to decided upon the material to be used for fabrication of panels.	CRCA sheet is also acceptable.
259.			The offered Cubicel shall be fabricated using CRCA Sheets of thickness 2.5 MM.	CRCA sheet 3 mm for load bearing & 2 mm for others
260.	6.0	A ladder should be provided in the circuit Breaker structure for easy acess to the operating mechanisim house. The ladder shall be of M.S. with Hot Dip galvanised.	No Separate Ladder shall be provided, it will be part of Support Structure only.	Agreed. Ladder is not required
261.	8.0	Min. Clearance between phase : 505MM	As per IEC the clearance shall be 320MM, whereas as per the Type Tested design the Clearance shall be 420MM	As per type test
262.		Min. Clearance between live parts and grounded objects : 1400MM	As per IEC the clearance shall be 320MM, whereas as per the Type Tested design the Clearance shall be 520MM	As per type test.

263.	41.Qualifying Requirement,Technical Spec	Qualifying Requirement: The equipment offered shall be procured from short listed vendor at E-23 and shall have been successfully TypeTested during last five years on the date of bid opening.The Type Test reports shall be submitted along with the bid.	Proposed further addition of "Minimum product experience or field performance of the product offered should be of three years from the date of tender opening.	as per tender specification

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264.	5.3,Technical Spec	The vacuum circuit breaker panels shall be enclosed in sheet steel independent floor mounting cubicle made of 3 mm thick CRCA Sheet for outer walls including cable entry gland plate and 2 mm thick for non-load bearing partition/ inside walls suitable for coupling with identical units on either sides to form switchboard.	Proposed to add "or as per the panels that has been passed successfully in Internal arc test and had minimum three years of field experience."	As per tender specification
265.	6.2,VCB,Technical Spec	The vacuum circuit breaker poles shall be sealed to prevent contamination of the spaces surrounding the interrupters.	The vacuum circuit breaker poles shall be sealed for life type and open pole design for better air circulation and heat dissipation.	As per tender specification
266.	Part-C , Clause 2.1,General description,Technical Spec	The E-room shall accommodate 33 kV and 11 kV Switchgear panels containing VCB (630A), CT (630A), disconnector (630A), IVT, bus bar 800A inside GIS chamber and Battery and Battery Charger, ACDB, DCDB , RTU etc	The E-House need more robust, safe against accidental touch, insensitive to external enviornment and modular circuit breakers that are different than the conventional GiS or AIS. It also need to be compact enough in terms of its footprint to save the urban land.The maximum current rating considering 8 MVA transformer with continious over loading will be 157 and 472 Amp respectively on 33 and 11 KV side. Hence for optimisation of the offer and standardisation of the network all the MV equipmets both of 33 and 11 KV should be 630Amps.	630A for E House equipment, 800A for bus bar.
267.	2.1 Design Standards VOL-II(TS) E11-RTU & SCADA Page 4 of 18,RTU,Technical Spec	For easy maintenance the architecture shall support pluggable modules on backplane.	For easy maintenance the architecture shall support pluggable modules on backplane / DIN rail support	Substation RTU has to be rack based with pluggable modules on backplane.
268.	3.0 RTU Functions Clause J (Point IV) VOL-II(TS) E11-RTU & SCADA Page 6 of 18	Communication with at least two master stations simultaneously on IEC 60870-5-104	Recommanded to have communication with four master station simultaniously on IEC60870-5-104 e.g.Two channel for Main and back up control centre; one for data recovery and one for LDC if any , in future.	As per tender specification.
269.	9.0 Sequence of Events (SOE) feature VOL-II(TS) E11-RTU & SCADA Page 8 of 18,RTU,Technical Spec	The RTU shall have an internal clock with the stability of 10ppm or better .	Recommanded to have 3ppm at 25 deg centigrade or better but less than 10 ppm , as lesser PPM ensures that RTUs are in Sync with SCADA for most of the time and there is less or no scope of error for analysing and correctly interprettion of relay data &	As per tender specification. It shall be less than 10 ppm.

16.12.13 10.12.13

			coordination during emergency. Further,GPRS band width would be saved if lesser Time synchronization messages are sent.	
270.	18.6 Air-conditioning VOL-II(TS) E11-RTU & SCADA Page 15 of 18,RTU,Technical Spec	RTU Panel should have air conditioner and the panel should be double door front open able.	Air Conditioner is the part of container / substation control room,	Acceptable.
271.	1.5 Qualifying requirement of vendors VOL-II(TS) E2- GENERAL TECHNICAL CLAUSES & DESIGN Page 3 of 42	The material offered shall be procured from short listed vendor at E-23 and shall have been successfully Type Tested during last five years on the date of bid opening. The Type Test reports shall be submitted along with the bid. For other items which are not in the vendor list, the material offered shall be in accordance with the REC specifications and procured from a vendor who must have at least three years experience in manufacturing of the same. The materials shall have been successfully type tested during last five years on the date of bid opening. The Type Test reports shall be submitted along with the bid. For all items covered under the scope, the manufacturer should have production facility in India for atleast three years from the date of bid opening	No Approved make of RTU manufacturer is mentioned in RFP. As mostly switchgear data need to monitored and controld, the makes to be same as the switchgear manufacturers listed in E23 for better coordination of remote control an monitoring.	Vendor list will be uploaded.
272.	RTU,Technical Spec	IEC 61850 support in RTU	KEMA certification for 61850 compliance to be submitted alongwith the offer to qualify.	Protection Relay should be interfaced with RTU in IEC 61850.
273.	PLC programming support, RTU, Technical Spec		PLC Programming having IEC61131-3 SCADA language to facilitate user to write various programe. It will be easier to for OPTCL to change / configure RTU by using standard PLC programming	The manufacturer may provide the Programming language (software) to configure & maintain the RTU in future if needed by the Utitility.
274.	Analog Inputs Clause 7.0	The RTU analog to digital (A to D) conversion shall have digital	The RTU analog to digital conversion (A to D) shall have digital resolution of at least sixteen	As per tender specification.

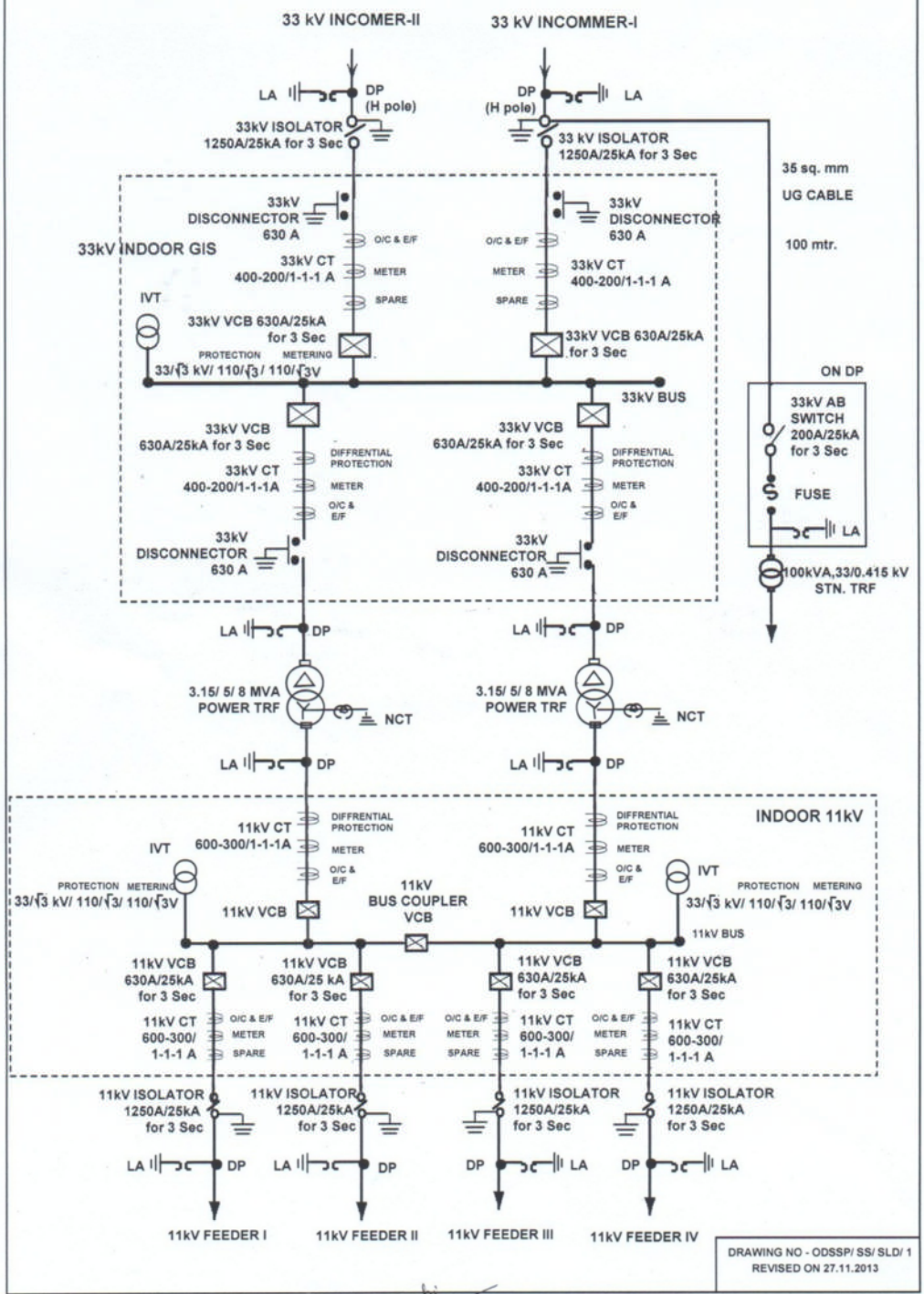
	VOL-II(TS) E11-RTU & SCADA Page 7 of 18,RTU,Technical Spec	resolution of at least twelve (12) bits plus minus sign.	(16) bits plus minus sign.	
275.	Communication between RTU and MFT's,RTU,Technical Spec Clause 6.0 VOL-II(TS) E11-RTU & SCADA Page 7 of 18		Schneider recommands to have all serial port to have galvanic isolation against power voltage surges.	Agreed. All serial port must have galvanic isolation against power voltage surges.
276.	1.0 SCOPE OF SCADA	In the receiving stations i.e. at DSOCC, the information will be routed through a secured gate way and to be integrated with the SCADA provided by the vender or with any 3rd party SCADA.	The provided RTU intergration SCADA is not in our scope. We can configure RTU as per interoperability list with point to point testing between RTU and Control center. Any modification or hardware requirement at control center is not in our scope. Request OPTCL to confirm.	Confirmed. At present control from local PC connected with RTU should be in the present scope.
277.	4.0 Communication ports	The RTU shall be designed to connect maximum 5 MFTs	We request RTU shall be designed to connect minimum 8 MFTs. Kindly confirm	RTU should have following communication ports- 1. Master Station communication port (IEC 104) - 2nos. 2. LDMS with maintenance port (IEC 104) - 1no. 3. Ports for connecting MFTs – Serial ports as per Station requirement. 4. Ports to connect with Protection Relays on IEC 61850 as per Station requirement.

278.	6.0 Communication Protocol between RTU & MFTs	As an alternate approach the utility/ contractor may use RTU as a data concentrator & acquire all the required analog data from DCU installed & connected to energy meters using MODBUS protocol under IT scheme under R-APDRP. However, performance, functional, availability & update time requirement shall be met in this case also. It is the responsibility of utility /contractor to assess this option & only opt in case it is found feasible	We are not clear about the scheme. Request OPTCL to provide the architecture to understand the connectivity. Also provide us the list of stations where DCU exists. Any modification at existing DCU with make for providing Data to RTU as per - our interoperability table for the corresponding protocol is in the scope of OPTCL. Kindly confirm	DCU is not considered at present. The present scheme is to provide a RTU interfacing MFTs in each feeders. MFTs should be interfaced with RTU in IEC 101.
279.	9.1 IED pass	IED pass through the Master Station user shall be able to perform a virtual connection with any IED connected to the RTU/DC, provided the communication protocol functionality, to support the information transfer from and to the IEDs.	Please clarify the requirement of remote parameterization	Remote parametrisation / control is not considered at present. However, RTU should have provision to communicate with Control Centre in future. At present control from local PC connected with RTU should be in the present scope.
280.	19.0 SCADA INTERFACE PHILOSOPHY	RTU will read all the signals coming from (IEDs MFMs,MFTs,Numerical relays,Transformer REGDA relays, Battery Charger) as Soft signals on standard	We request OPTCL to clarify whether the DI, AI, DO should be soft signal or Hard wired signals. Clause 18.2, 18.3 and 18.4 mentions about hard wired signals.	RTU need input from Transformer, Multi function Transducers / Meters, IED's. Presently RTU **does not need** to be interfaced with Battery Charger.
281.	Volume II - Technical Specification, E11-RTU & SCADA (Page 6 of 18	Cl No. 3.0 j IV - (RTU Functions) - Communication with at least two master stations simultaneously on IEC 60870-5-104	As we understand that the existing system in OPTCL is having four master stations (ie 2 @ control centres, 1 @ state level & 1 @ zonal level), kindly confirm whether communication with two master stations (local control centres) is sufficient. In case at later date, the communication has to be extended to other master stations then the same shall be subject to additional price implication. Kindly confirm	As per tender specification
282.	Volume II - Technical Specification, E11-RTU & SCADA Cl No. 6 -		In order to provide protection against power voltage surges, all serial ports shall be provided with galvanic isolation. Request you	Agreed. All serial port must have galvanic isolation against power voltage surges.

	Communication between RTU and MFT's (Page 7 of 18)		to kindly include the same.	
283.	Volume II - Technical Specification, E11-RTU & SCADA. PLC programming support		PLC programming shall be based on standard PLC programming language (like IEC) so that it ill be easier to for OPTCL to change / configure RTU at later stage. No Proprietary languange shall be used for programming the PLC.Request you to kindly include the same.	The manufacturer may provide the Programming language (software) to configure & maintain the RTU in future if needed by the Utitility.
284.	Technical Queries (Regarding RTU & Accessories for SCADA Compatibility with PC & Connection)		1) Make of RTU—- Missing 2) BOM of RTU —- Missing 3) System Architecture of RTU based SCADA per substation 4) Complete I/O List – It is not cleared 5) Spares list of RTU (Like: Analog Card,Digital Card,Processor Module,Power Supply Module ,etc....) – It is missing .Please Confirm whether it is required or not Need to Confirm	1. Revised Vendor list will be uploaded. 2. Connected SLD has been uploaded. You can find out complete I/O list, BOM to measure following Fdr/Trf parameter. All breaker, Isolator On/Off position, All Fdr,Trf MW, MVAR, Trf Tap position, 33kV & 11kV Bus Voltage, Freuency. 3. The System Architecture is already there in TS. Spare provision in respect of Power supply Module, CPU Module, Analog Card, Digital Card, MFT (1no. each) per S/s should be in the Scope of work. It has been reflected in Revised BOQ.
285.	E2- General tchnical clauses & design & E11- RTU & SCADA TS ,Clause 1.0, point 1.4 Pg.4 of 18	RTU operation	As per E2- General technical clauses & design Clause 1.0, point 1.4, RTUs have to be installed now for future SCADA requirements. But as per E11- RTU & SCADA TS Pg.4 of 18,The vender of the DSOCC will be responsible for operational training to the DISCOM's Operators and will hand-hold the operation control of the unmanned S/S for the project period of 2 years. We understand that it is not in preent scope of work, please clarify	At present RTU need not report to the control centre. However, control from local PC connected with RTU should be in the present Scope.
286.	E11- RTU & SCADA TS ,Pg.4 of 18	RTU operation	As stated in E11- RTU & SCADA TS Pg.4 of 18, Each primary S/S along with construction of associated 33 KV and 11 KV lines shall be on turn-key basis for supply, erection, testing, commissioning and preventive maintenance	Applicable for AIS substation also.

			for a period of 2 years. We understand that this clause will not be applicable for AIS tenders. Kindly clarify.	
287.	4.0 Communication ports	The RTU shall be designed to connect maximum 5 MFTs	We request RTU shall be designed to connect maximum 8 MFTs. Kindly confirm.	It shall be minimum 8nos of MFT and provision should be there to integrate up to 12nos. of MFT.
288.	6.0 Communication Protocol between RTU & MFTs	As an alternate approach the utility/ contractor may use RTU as a data concentrator & acquire all the required analog data from DCU installed & connected to energy meters using MODBUS protocol under IT scheme under R-APDRP. However, Performan-ce, functional, availability & update time requirement shall be met in this case also. It is the re-sponsibility of utility/contractor to assess this option & only opt in case it is found feasible.	We are not clear about the scheme. We request you to provide the architecture to understand the connectivity. Also provide us the list of stations where DCU exists. Any modification at existing DCU with make for providing Data to RTU as per our interoperability table for the corresponding protocol is in your scope. Kindly confirm.	DCU is not considered at present. The present scheme is to provide a RTU interfacing MFTs in each feeders. MFTs should be interfaced with RTU in IEC 101.
289.	General	RTU	We assume that inputs to the RTU are required from the following equipment's only: 1. 33kV GIS 2. 33kV AIS 3. 11kV AIS 4. Outdoor CT/PT 5. Isolators Please mention whether we have to take inputs from any other equipment.	Transformer, Multi function Transducers / Meters, IED's.
290.	General	RTU	Technical Specification for RTU Panel is not available. Please provide us the same.	Will be uploaded
291.	Sl. No 14, Price Bid, Schedule -VIIA: Supply of Equipments/Materials (SUBSTATION)	RTU & Accessories for SCADA Compatibility with PC Connection	Please confirm RTU & Accessories for SCADA Compatibility to be provided for 33KV & 11KV. This Item in BOQ is indicated along with 11kV , while spesification call for 33KV & 11KV RTU.	Per Sub-station, only one RTU will be provided.
292.			Display of Mult -Function Meter - whether LCD/LED, pl. conform	The display may be LED/LCD

PROPOSED SINGLE LINE DIAGRAM FOR 2X3.15/5/8 MVA, 33/11 kV GIS S/S
(33 kV GIS INDOOR, 11 kV AIS INDOOR)



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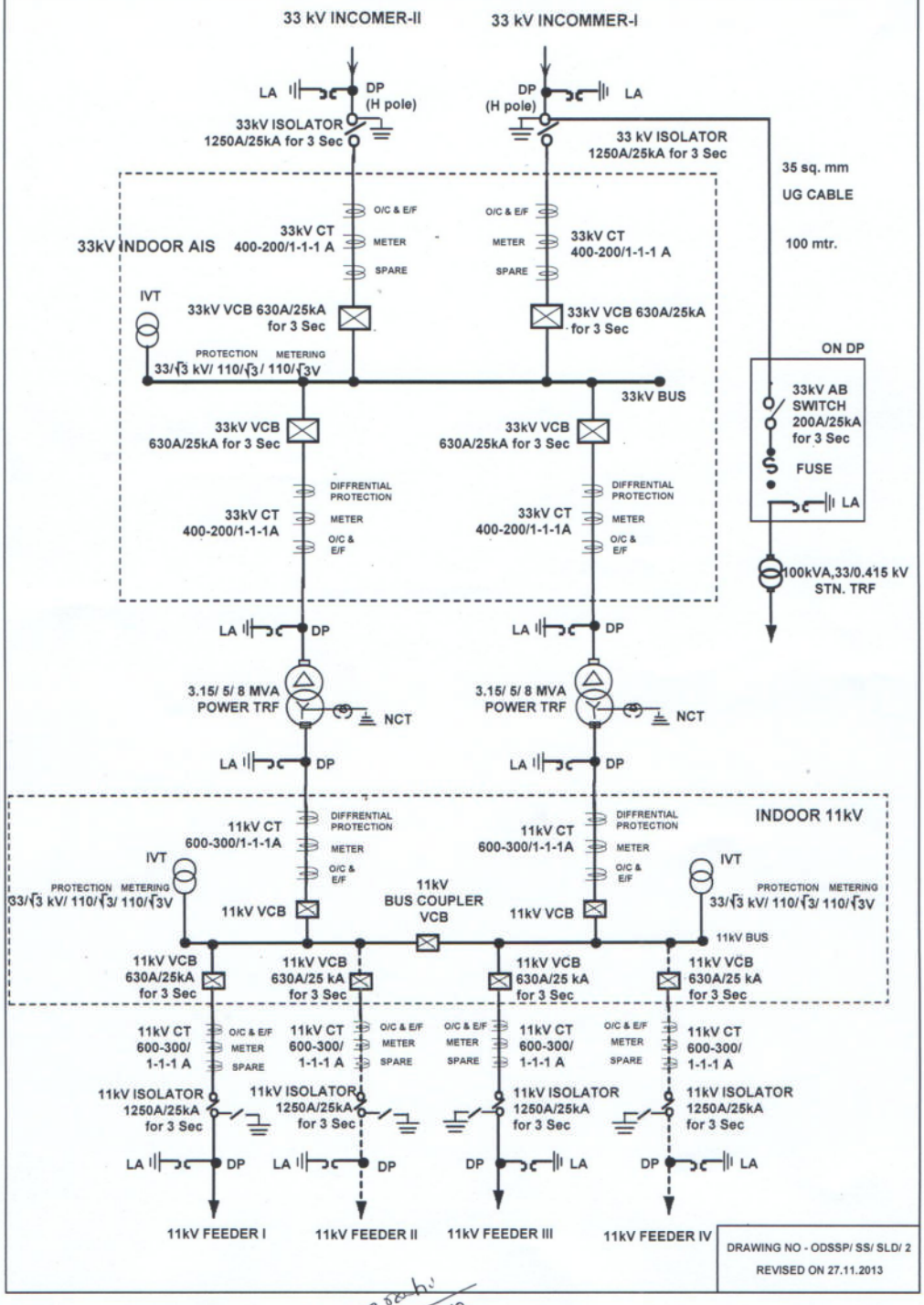
REVISED ON 27.11.2013

10.12.13

PROPOSED SINGLE LINE DIAGRAM FOR 2X3.15/ 5/ 8 MVA, 33/11 kV AIS S/S
(33 kV AIS INDOOR, 11 kV AIS INDOOR)



DRAWING NO - ODSSP/ SS/ SLD/ 2
REVISED ON 27.11.2013

10.12.13