Corrigendum No. 05
To

NIT No: AEML/MTB/2019-20/04

Chembur Second feed : Turnkey Package-2 : Design, Engineering, Manufacture, Supply & ETC of Control Philosophy, SDH, SCADA and LILO tower, OPGW for LILO of existing MSETCL Trombay-Nerul at existing AEML 220 kV Chembur EHV station .

1 Preamble:

- The Scope of Work is split into three (03) parts :

I. Package 1 : Supply and services Tower plus OPGW , Lightning attester
II. Package 2: Supply and services of Control philosophy at MSETCL Trombay-Nerul AEML Chembur

III. Package 3: Supply of SCADA & SDH & Supervision during ETC is omitted from the scope of Work

Accordingly the corresponding changes in NIT document are as under:

2 Bid details:

Sr. No.	Description	Earnest Money Deposit	Pre-bid meeting date	Bid Submission date
01	Package 1 Supply and services Tower plus OPGW , Lightning arresters	Rs.4,00,000/-	*31.08.2019	15.09.2019 (16.00 Hr)
02	Package 2: Supply and services of Control philosophy at MSETCL & AEML Chembur	Rs. 3,30,000/-		

- 15.00 Hr at 220kV Aarey EHV Sub-Station, Opposite Unit No.19, Aarey Colony, Goregaon (E), Mumbai - 400065

3 Eligibility Criteria & Qualification Criteria

No change.

4 The Qualifying requirement:

Kindly refer to **Annexures 18**

Section-III: Brief Scope of Work

1 INTRODUCTION

1.1. Adani Electricity Mumbai Limited (AEML) operates 3 Nos. of 220/33kV AIS EHV Sub-Stations (at Aarey, Versova and Ghodbunder) commissioned around 1995 and 5 Nos. of 220/33kV GIS EHV Sub-Stations (at Goregaon, Saki, Chembur, Gorai, Borivali) commissioned around FY 2011/ 2012/ 2013 in Mumbai, Maharashtra.

1.2. Presently AEML 220kV Chembur Substation is connected with Double Circuit 220kV MSETCL Trombay Substation. Considering the reliability, load & network expansion, 2nd feed to AEML 220kV Chembur Substation is vital

1.3. Accordingly, AEML is undertaking a project to establish LILO connectivity of existing MSETCL 220kV Trombay – Nerul line at existing AEML 220kV Chembur Substation.

2 Project information

Ambient conditions	
Design ambient temperature	45 ^{0}C
Primary power supply	
Incoming supply	220KV, 3PH, 3W, 50Hz, Effectively grounded
Incoming supply system fault level	40 KA for 3 sec
Distribution voltage for system	415 V, 3 ph, 4 W, 50 Hz
Auxiliary Power supply	
Lighting fixture, space heater, (1- ph- motors, 1-ph receptacle)	240 V, 1 PH, 50 Hz. (tapped from phase and neutral)
Control supply	
For 220 kV System	220 V, DC supply from battery
For LT breaker	240 V, 1 PH, 50 Hz. tapped from incomer side between phase and neutral
Supply voltage and frequency variation	
Voltage variation	± 10%
Frequency variation	5%

Combined voltage and frequency variation	± 10%
Nearest airport	MUMBAI
Project: LILO OF EXISTING MSETCL 220kV Trombay – Nerul AT Existing AEML 220kV Chembur SUBSTATION	AEML 220kV Chembur Substation:
	220/33 Substation Station, Borla Village, near Bhavna Trust, Chembur, Mumbai-400071.
	MSETCL 220kV Trombay Substation:
	Trombay Substation Station, Trombay, Near TPC Trombay, Mumbai-400088.
	MSETCL 220kV Nerul Substation:
	Nerul Substation Station, Near Wonder Park, Nerul, Navi Mumbai-400706.

3 Part1: Supply and services Tower plus OPGW , Lightning arresters

3.1 SCOPE

To establish LILO connectivity of existing MSETCL 220kV Trombay– Nerul line at existing AEML 220kV Chembur Substation following work is required.

a. Construction of LILO tower near tower no 720 on MSETCL 220kV Trombay – Nerul line with necessary civil works .
b. Removal of existing Earth Guard Wire of 220kV transmission line between MSETCL Trombay to MSETCL Nerul Substation and replace it with OPGW .
c. Exclusion - Supply and laying of 220kV Cable from LILO tower to EHV Chembur is not in the part of this specification.

3.2 Tower Works:

3.2.1 MSETCL Tower No. 720 shall be modified / altered to adopt overhead connectivity to proposed new CTT (Cable Termination Tower) which is proposed to be located near this existing MSETCL Tower. All the necessary fittings and hardware shall be changed to take the mechanical & electrical load of all the accessories.

3.2.2 Design, manufacture, supply, erection & commissioning of CTT near above mentioned MSETCL Tower. CTT may be lattice tower/Monopole. The CTT shall be provided with necessary arrangements to install 6 nos of 220 kV 1c X2500 sq mm cable terminations , 6 nos of 220kV lightning arresters and 6 nos of optical Current transformers. (Refer Annexure for general arrangement of CTT Annexure 6) Pl refer attached annexure for specification of lattice tower (Annexure 3 …) or Specifications of Monopole (Annexure 2) .

3.2.3 Design, manufacture, supply, erection & commissioning of HTLS ACCC drake conductor along with associated accessories /hardware to make LILO arrangement at existing Tower No 720 of MSETCL Trombay –Nerul line to proposed CTT. Please refer attached specification of HTLS conductor and hardware (Annexure--4). We propose use of polymer long rod insulator alongwith suitable hardware for this arrangement. Pl refer specification of polymer long rod insulator (Annexure 4A)

3.2.4 The bidder shall carry out required civil work for installation of CTT as per our specification (Annexure 17 :Specification for Civil Works)

3.2.5 Fencing /protection wall (of minimum 2m height) arrangement for proposed CTT tower.

3.2.6 Design, manufacture, supply, erection & commissioning of 220kV Lightening arrestors alongwith Surge counter with suitable mounting arrangement, current leakage indicator with suitable mounting arrangement. These shall be mounted on above mentioned CTT at the Height @45m . (Refer Annexure12 for Technical Specification & BoQ for 220kV Class Lightening Arrestor System. Refer Annexure 6 for general arrangement of CTT)

3.2.7 Attachments :

3.2.7.1 Annexure 2.: specification of Monopole

3.2.7.2 Annexure 3: specification of lattice tower

3.2.7.3 Annexure 4: HTLS conductor and hardware

3.2.7.4 Annexure 4 A: specification of polymer long rod insulator

3.2.7.5 Annexure 6A: for general arrangement of CTT (Elevation)

3.2.7.6 Annexure 6B: for general arrangement of CTT (Plan)

3.2.7.7 Annexure 12: 220kV Lightening Arrestor System

3.2.7.8 Annexure 10: FQAP Format No. 21.20.21-Tower Construction

3.2.7.9 Annexure 16 : Existing MSETCL 220kV D/C Transmission line tower schedule

3.2.7.10 Annexure 17 : Specification for Civil Works

3.3 OPGW works:

3.3.1 De-commissioning, dismantling & removal of existing Earth Guard Wire of 220kV transmission line between MSETCL Trombay to MSETCL Nerul Substation by live line method as per specification TD-SP-OPGW(48F)-226-R0 (Annexure -1)

3.3.2 Design, manufacture, supply, erection & commissioning of associated hardware fitting required for replacing existing Earth Guard wire with proposed OPGW (refer Annexure1 for Hardware details)

3.3.3 Design, manufacture, supply, erection & commissioning 24 core OPGW (refer Technical Specifications, TD-SP-OPGW(48F)-226-R0… (Annexure -1)

3.3.4 Coordination with M/s MSETCL for installation of OPGW by replacing earthwire using live line method.

3.3.5 Existing MSETCL Trombay to MSETCL Nerul transmission line tower design validation for installation of OPGW. Tower strengthening shall be done if required as per validation report.

3.3.6 Attachments :

3.3.6.1 Annexure-1 Specification for OPGW (TD-SP-OPGW (48F)-226-R0)

3.3.7 Galvanizing:

3.3.7.1 All cable trays and their fittings as well as cable tray covers shall be hot dip galvanized after fabrication according to IS: 2629. Galvanizing shall be uniform, clean smooth, and continuous and free from acid spots. Galvanizing found defective, the entire batch shall be re-galvanized at no extra cost. The zinc coating shall be uniform, clean and smooth and free from spangle. The zinc coating shall not be less than 90 micron in thickness and shall weigh not less than 600 gm/sq. meter not area covered.

3.4 Galvanized structural works

3.4.1 The minimum thickness by hot dip galvanizing shall be 90 microns and material shall be offered for inspection at galvanizing works before final dispatch to site.

3.4.2 All site cutting, welding shall be suitably treated with cold galvanizing paint. For galvanizing works, factory approval shall be taken from AEML EIC. After approval of final drawings work can be initiated at site.

3.4.3 Payment will be made based on theoretical consumption of materials worked out from construction drawings or measured as actual if drawings are not available on weight basis by multiplying length / size of the section with standard unit weight as per IS.

3.4.4 Rolling margins and wastages will not be paid separately and quoted rates deemed to be included the same. (For all types of structural steel sections).

3.4.5 The Contractor shall carry out the painting work in all respects with the best quality of approved materials (conforming to relevant IS Codes) and workmanship in accordance with the best engineering practice. The Contractor shall furnish characteristics of paints (to be used) indicating the suitability for the required service conditions. The paint manufacturer's instructions shall always be followed as far as practicable.

3.4.6 All the Supply items shall have necessary transit & erection insurance.

3.4.7 During the erection stage, the entire work shall be audited as per AEML field quality plan. (Refer Field Quality Plan Document in Annexure 8).

3.4.8 The bidder shall depute qualified Safety officer during the site works.

3.4.9 Project Management to ensure complete safety of the personnel and commissioning of the station as per the schedule.

3.4.10 Electrical Inspector approval for the commissioning of equipments in this tender are under scope of bidder, support from AEML shall be provided.

3.4.11 The scope covers submission of following design documents / drawings for approval before taking up for manufacturing, construction, erection and as built drawings later.

3.4.11.1 Design basis reports

3.4.11.2 General Arrangement drawings (plan, section, elevations)

3.4.11.3 Single Line Diagrams & Schematic drawings

3.4.11.4 Layout drawings

3.4.11.5 RCC drawings

3.4.11.6 Quality Acceptance Plans / Material Quality Plans, FAT/SAT Plans

The successful bidder will submit the cost spilt up in following format.

Sr. No.	Description of Items	Total Quantity required	Unit	Unit Rate	Amount
	Scope for Tower End Support for LILO upto existing AEML Chembur EHV Substation				
1	Supply, Design, Engineering, Manufacturing, Inspection, Transportation, Unloading, Storage, Erection, Testing, Commissioning, Complete Insurance (from Manufacturing to Commissioning) for Tower/Gantry structure, OPGW and spares as per technical specifications document no. TD-SD- LILO OF EXISTING MSETCL 220KV TROMBAY – NERUL AT EXISTING AEML 220KV CHEMBUR SUBSTATION ON TURNKEY BASIS -351-R0	1.00	No.		-
2	Civil Services for Tower/Gantry Structure	1.00	Lot		-
Total cost Rs.					

4 Package 2:Supply and services of Control philosophy at MSETCL & AEML Chembur

4.1 SCOPE

T o establish LILO connectivity of existing MSETCL 220kV Trombay – Nerul line at existing AEML 220kV Chembur Substation following work is required.

d. Supply and commissioning of Control & Relay System, and spares at MSETCL Trombay and Nerul end
e. Augmentation of Control & Relay System, pertaining to 2 nos 220KV GIS Bays at Chembur
f. Supply and commissioning of Optical CT at Chembur LILO Tower Location

4.2 Optical Current Transformer (OCT)

4.2.1 Complete Supply & Installation of Optical CT system which includes complete design, engineering, manufacturing, testing, inspection, packing, transport to site, loading, dispatch with transit insurance and delivery of Optical Current Transformer (OCT), suitable substation end equipments which shall be interfaced with existing protection & automation system. The scope shall also include all the Factory Acceptance & Site Acceptance tests as per national / international standards. The Optical CT shall be mounted on CTT at height @45m (Refer Annexure 5 for Technical Specifications and BoQ. Refer Annexure…6 for general arrangement of CTT)

4.2.2 Attachments

4.2.2.1 Annexure 5: Technical Specifications of Optical Current Transformer.

4.2.2.2 Annexure 6A, 6B for general arrangement of CTT (plan & elevation)

4.3 MSETCL 220kV Trombay Substation

4.3.1 Bidder shall study and submit the existing Control & Protection philosophy related to 220kV Trombay – Nerul Line at MSETCL 220kV Trombay Substation & take approval from MSETCL.

4.3.2 Bidder shall prepare and propose the new Control & Protection philosophy related to new LILO line, i.e, 220kV Trombay – AEML Line at MSETCL 220kV Trombay Substation (Refer general philosophy for protection scheme to be adopted which is mentioned in CRP Technical Specifications in Annexure 7)

4.3.3 Bidder shall submit complete LILO control & protection scheme, as built, in AutoCad & pdf version to AEML.

4.3.4 Bidder shall de-commission, dismantle & remove existing main protection relays, auxiliary relays. These relays shall be shifted to the designated MSETCL store as per the MSETCL Substation / Testing Engineer-In-Charge.

4.3.5 Design, manufacture, supply, erection & commissioning of protection relays, auxiliary relays in the existing relay panel (Refer Technical Specifications & BoQ in Annexure -7)

4.3.6 De-commission, dismantling & removal of existing PLCC panel. This PLCC panel shall be shifted to the designated MSETCL store as per the MSETCL Substation / Testing Engineer-In-Charge.

4.3.7 Attachments:

4.3.7.1 Annexure 7: Control & Protection System of MSETCL end.

4.3.7.2 Annexure -13: Specifications of LT, Control Cables

4.3.7.3 Annexure –15: Pre-commissioning Test Format.

4.3.7.4 Annexure –17: Specification for Civil Works

4.3.7.5 Annexure 21 MSETCL_TROMBAY_NERUL_SLD

4.4 MSETCL 220kV Nerul Substation

4.4.1 Bidder shall study and submit the existing Control & Protection philosophy related to 220kV Nerul – Trombay Line at MSETCL 220kV Nerul Substation

4.4.2 Bidder shall prepare, propose the new Control & Protection philosophy related to new LILO line, i.e, 220kV Nerul – AEML Line at MSETCL 220kV Nerul Substation & take approval from MSETCL. (Refer CRP Technical Specifications & BoQ in Annexure7)

4.4.3 Bidder shall submit complete LILO control & protection scheme, as built, in AutoCad & pdf version to AEML

4.4.4 Bidder shall de-commission, dismantle & remove existing main protection relays, auxiliary relays. These relays shall be shifted to the designated MSETCL store as per the MSETCL Substation / Testing Engineer-In-Charge. (Refer ETC & Balance of Project Document in Annexure 2)

4.4.5 Design, manufacture, supply, erection & commissioning of protection relays, auxiliary relays in the existing relay panel (Refer CRP Technical Specifications & BoQ in Annexure 7)

4.4.6 De-commission, dismantling & removal of existing PLCC panel. This PLCC panel shall be shifted to the designated MSETCL store as per the MSETCL Substation / Testing Engineer-In-Charge. (Refer ETC & Balance of Project Document in Annexure 8)

4.4.7 Attachments:

4.4.7.1 Annexure 7: Control & Protection System of MSETCL end.

4.4.7.2 Annexure -13: Specifications of LT, Control Cables

4.4.7.3 Annexure –15: Pre-commissioning Test Format.

4.4.7.4 Annexure –17: Specification for Civil Works.

4.4.7.5 Annexure 21 MSETCL_TROMBAY_NERUL_SLD

4.5 AEML 220kV Chembur Substation:

4.5.1 Design, manufacture, supply, erection & commissioning of protection relays, auxiliary relays in the existing relay panel (Refer CRP Technical Specifications & BoQ in Annexure 9)

4.5.2 Attachments:

4.5.2.1 Annexure 9: Control & Protection System of Chembur end

4.5.2.2 Annexure 11A SLD of Chembur EHV sub-station.

4.5.2.3 Annexure -13: Specifications of LT, Control Cables

4.5.2.4 Annexure –15: Pre-commissioning Test Format.

4.5.2.5 Annexure –17: Civil Works

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4.6 Technical requirements:

4.6.1 Cable tray & fittings:

4.6.1.1 Cable trays shall be designed for a uniformly distributed load of 250 Kg per sq. meter plus a concentrated moving load of 100 Kg moving along the tray length. The maximum deflection admissible with this loading is 10 mm. Cable trays and fittings shall be fabricated out of minimum 2.5 mm thick MS

sheet free from any flaws and conforming to the relevant Indian Standards. Supply of cable trays shall include supply of all the cable tray fittings and accessories as needed for the cable trays installation. Measurement will be made along the centre line of the cable tray.

4.6.2 Ladder type cable trays & fittings:

4.6.2.1 Ladder type cable trays & fittings shall consist of side rails and horizontal ladder rungs. Side rails shall be formed to channel shape. All corners shall be as smooth as possible with radius not exceeding 6 mm.

4.6.2.2 Spacing between ladder runs shall be 250 mm. Alternate rung shall be slotted and each rung shall be spot welded to side rail.

4.6.2.3 Straight, sections shall be 2.5 m in length.

4.6.2.4 Elbows, reducers, tees, crosses etc shall comprise of MS sheet side rails and ladder rungs. Their various parts shall be spot welded. Side rails shall have two (2) holes of 10 mm diameter at each end of straight sections, elbows, crosses etc for fixing side couplers.

4.6.3 Perforated type cable trays and fittings

4.6.3.1 Perforated type cable trays and fittings shall be fabricated out of single 2.5 asmm thick MS sheet with perforations at the bottom. All burrs and sharp edges shall be ground and filed after making perforations so that cable trays have a smooth surface for easy cable pulling/laying.

4.6.3.2 All fittings such as elbows, reducers, tees, crosses, etc shall also be made out of MS sheet steel with perforations at the bottom.

4.6.3.3 Straight sections shall be supplied in 2.5 m Lengths.

4.6.3.4 Dimensions of fittings shall be same as for the ladder type tray fittings except that ladder rungs shall be substituted by perforated MS sheet. The side rails shall have two (2) holes of 10 mm diameter at each end of straight sections, elbows, tees, crosses etc for fixing side couplers.

4.6.4 Side couplers:

4.6.4.1 Each 2.5 m section of the cable tray and each elbow, reducers, tee, cross etc. shall be provided with four side coupler plates and associated bolts, nuts & washers. The side coupler shall consist of 2.5mm thick MS plates with

two circular holes and two elliptical holes.

4.6.5 Galvanising:

4.6.5.1 All cable trays and their fittings as well as cable tray covers shall be hot dip galvanized after fabrication according to IS: 2629. Galvanizing shall be uniform, clean smooth, and continuous and free from acid spots. Galvanizing found defective, the entire batch shall be re-galvanized at no extra cost. The zinc coating shall be uniform, clean and smooth and free from spangle. The zinc coating shall not be less than 90 microns in thickness and shall weigh not less than 600 gm/sq. meter not area covered.

4.7 Galvanized structural works

4.7.1.1 Hot dipped Galvanized Support structures like channel, angles, beams, plates, gratings etc of TISCON, RINL, SAIL confirming to IS: 2062, for panels base frame, cable trays, cable racks, transformer grating, fencing around transformer etc. including cutting, welding, drilling holes, Nuts, Bolts and washer, Hilti anchor bolt all complete as per drawing.

4.7.1.2 All the materials shall be procured by the contractor and included in their quoted rate. No separate weights shall be considered for payment on account of bolts, nuts, washers, welding rods, paints etc which are deemed to be included in quoted rate by the contractor.

4.7.1.3 The minimum thickness by hot dip galvanizing shall be 90 microns and material shall be offered for inspection at galvanizing works before final dispatch to site.

4.7.1.4 All site cutting, welding shall be suitably treated with cold galvanizing paint. For galvanizing works, factory approval shall be taken from AEML EIC. After approval of final drawings work can be initiated at site.

4.7.1.5 Payment will be made based on theoretical consumption of materials worked out from construction drawings or measured as actual if drawings are not available on weight basis by multiplying length / size of the section with standard unit weight as per IS.

4.7.1.6 Rolling margins and wastages will not be paid separately and quoted rates deemed to be included the same. (For all types of structural steel sections).

4.7.1.7 The Contractor shall carry out the painting work in all respects with the best quality of approved materials (conforming to relevant IS Codes) and workmanship in accordance with the best engineering practice. The Contractor shall furnish characteristics of paints (to be used) indicating the suitability for the required service conditions. The paint manufacturer's instructions shall be followed as far as practicable at all times.

4.7.2 The bidder shall supply all the cable trays and accessories for laying the LT, control and SCADA cables.

4.7.3 All the Supply items shall have necessary transit & erection insurance.

4.7.4 As per the international society for automation (ISA) standard 71.04-1985 site environmental condition is under G3 (severity level harsh) classification. Therefore, relays & Ethernet switches shall be provided with conformal coating. Bidder shall provide conformal coated relays & Ethernet switches which are suitable for G3 environmental condition.

4.7.5 All erection and other items like cable trays, earthing, superstructures, angle, flats, channels, nut/bolts, etc and not limited to shall be hot dip GI.

4.7.6 During the erection stage, the entire work shall be audited as per AEML field quality plan. (Refer Field Quality Plan Document in Annexure 8).

4.7.7 The bidder shall depute qualified Safety officer during the site works.

4.7.8 Project Management to ensure complete safety of the personnel and commissioning of the station as per the schedule.

4.7.9 Electrical Inspector approval for the commissioning of equipments in this tender are under scope of bidder, support from AEML shall be provided.

4.7.10 The scope covers submission of following design documents / drawings for approval before taking up for manufacturing, construction, erection and as built drawings later.

4.7.10.1 Design basis reports

4.7.10.2 General Arrangement drawings (plan, section, elevations)

4.7.10.3 Single Line Diagrams & Schematic drawings

4.7.10.4 Layout drawings

4.7.10.5 RCC drawings

4.7.10.6 Quality Acceptance Plans / Material Quality Plans, FAT/SAT Plans

4.7.10.7 The successful bidder will submit the cost spilt up in following format.

Sr. No.	Description of Items	Total Quantity required	Unit	Unit Rate	Amount
1.00	Scope of Equipment for Substation Connectivity at existing MSETCL EHV Substation end that include Trombay and Nerul EHV Sub-Stations Supply Design, Engineering, Manufacturing, Inspection, Transportation, Unloading, Storage, Erection, Testing, Commissioning, Complete Insurance (from Manufacturing to Commissioning) and handing over the entire successfully commissioned system to AEML for: a) Control & Relay System with LT/Control Cable and spares as per technical specifications document no. DOC NO:TD-SP-220KV-CRP-353-RO	1.00	LS		
2	Scope of Equipments for Substation Connectivity at existing AEML Chembur EHV Substation end Supply, Design, Engineering, Manufacturing, Inspection, Transportation, Unloading, Storage, Erection, Testing, Commissioning, Complete Insurance (from Manufacturing to Commissioning) for: a) Control & Relays and spares as per technical specification document no. TD-SP-220KVCRP-RELAYS- 347-R0 along with Feeder Segregation system and spares as per technical specifications document: TD-SP-220KVOCT-RP-350-R0				

3	Scope of Equipment at Tower End Support for LILO upto existing AEML Chembur EHV Substation a) Supply, Design, Engineering, Manufacturing, Inspection, Transportation, Unloading, Storage, Erection, Testing, Commissioning, Complete Insurance (from Manufacturing to Commissioning) for optical CT and spares as per technical specifications document no. .TD-SP-220KVOCT-RP-350-R0				

5 Bill of Quantity (BOQ):

I. Package 1: Supply and services Tower plus OPGW , Lightning arresters
Please refer BOQ tower package -Chembur 2nd feed

II. Package 2: Supply and services of Control philosophy at MSETCL & AEML Chembur
Please refer BOQ CRP,optical CT package -Chembur 2nd feed

1. Section-V: Technical Specifications

Kindly refer to SECTION VIII

2. Section-VIII: ANNEXURES

Package 1: Supply and services Tower plus OPGW, Lightning arresters

- Annexure-1: Technical Specification for OPGW 48C
- Annexure-2: Technical Specifications for Mono Pole Structure Material
- Annexure-3: TS for Lattice Tower Structure Material
- Annexure-4: Technical Specifications for ACCC (Drake) conductor
- Annexure-6A: General Arrangement of CTT(Elevation)
- Annexure-6B: General Arrangement of CTT(Plan)
- Annexure 10: FQAP Format No. 21.20.21-Tower Construction
- Annexure 12: Technical Specification 216kV LA R0
- Annexure 17: Specification for Civil Works
- Annexure 18a: Qualifying Requirements

Package 2: Supply and services of Control philosophy at MSETCL & AEML Chembur

- Annexure- 7: Technical Specifications for Replacement of existing control and relay panel with new control and relay panel at MSETCL 220kv Trombay and Nerul substations
- Annexure- 9: Technical Specification for supply, replacement, installation and T&C of line differential cum distance protection relays on existing 220kv control relay panel at AEML Chembur EHV S/s
- Annexure 11: SLD of Chembur EHV sub-station
- Annexure 13: Tech Spec for LT & Control Cable
- Annexure 13A: Technical specification for SCADA Cables
- Annexure 15: Format No.21.20.07_PCTF-CRP
- Annexure-5: Technical Specifications for optical CT
- Annexure 17: Specification for Civil Works
- Annexure 18b: Qualifying Requirements
- General BOQ
    - Completion Date: March 2020

    - Other common Annexures

    - Pre-Bid Meeting MOM Format
    - Taking over Certificate