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ODISHA ELECTRICITY REGULATORY COMMISSION
BIDYUT NIYAMAK BHAWAN

PLOT NO.4, CHUNOKOLI, SHAILASHREE VIHAR, BHUBANESWAR -751021

TEL. No. 2721048, 2721049

E-MAIL: oerc@odisha.gov.in / orierc@gmail.com

WEBSITE: www.orierc.org

PUBLIC NOTICE

Case No. 62/2026

Hearing of the Application of TPNODL under Para 3.2 of the OERC (Terms and Conditions for Determination of Wheeling and Retail Supply Tariff) Regulations, 2022 and as per directive of the OERC under RST order for FY 2026-27 seeking approval of Multi Year Capital Investment Plan for the period from FY 2026-27 to FY 2030-31 in its area of supply.

The Commission, vide its interim order dated 18.08.2026, has decided to dispose of the above case through public hearing which shall be held on **22.09.2026** at 11.00 AM through hybrid mode. The petition along with all Annexures submitted by the Applicant in this regard is available in OERC website (www.orierc.org) and also in TPNODL's website www.tpnorthernodisha.com. The persons/ organizations/ stake holders/institutions those who are interested to participate in the above proceeding may file their objections/suggestions/comments/ views, if any, on the aforesaid petition of Applicant on or before **17.09.2026** with a copy thereof being served on the petitioner. The Applicant is directed to file its rejoinder/respond to those objections/ suggestions/ comments/ views of the Respondents in shape of affidavit prior to the date fixed for hearing with copy to the Respondents. Those who are interested to participate in the public hearing through video conferencing should also indicate their e-mail address to the Commission at OERC e-mail (oerc.vc@gmail.com) by 5.00 PM of 21.09.2026.

By Order of the Commission

Dated: .08.2026

Sd/-

SECRETARY

Additional CAPEX 26-27 To Compliance Direction of the Commission (RST Order FY 2026-27)



**TP NORTHERN ODISHA
DISTRIBUTION LIMITED**

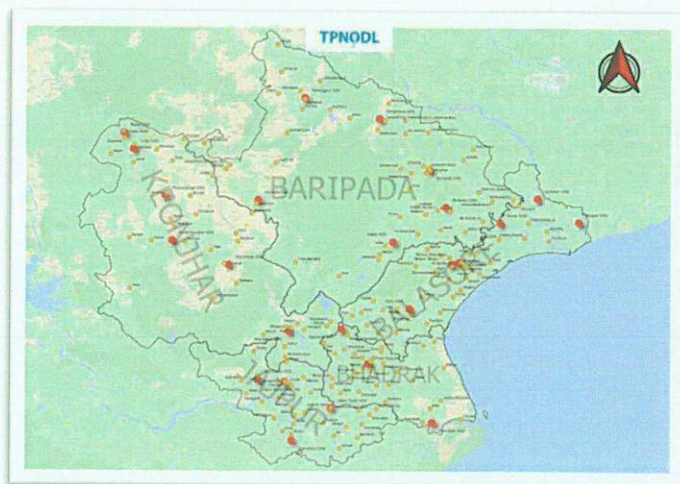
(A Joint Venture of Tata Power and Government of Odisha)

**DETAILED PROJECT REPORT (DPR)
FOR**

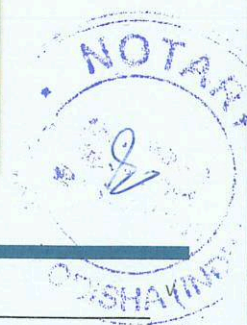
**Additional Capex to Comply
Direction of the Hon'ble Commission
(RST Order FY 2026-27)**

Submitted By

TP Northern Odisha Distribution Ltd.



TPNODL



BEFORE THE ODISHA ELECTRICITY REGULATORY COMMISSION
PLOT NO.4, CHUNUKOLI, SAILASHREE VIHAR
CHANDRASEKHARPUR, BHUBANESWAR

IN THE MATTER OF: Application under para 3.2 of OERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff), Regulations, 2022 for approval of Multi-Year Capital Investment Plan for the period FY 2026-27 to FY 2030-31 in the licensed area of TP Northern Odisha Distribution Limited in compliance to the Directives of the Hon'ble Commission under the Retail Supply Tariff (RST) Order for FY 2026-27 dated 24.03.2026.

And

IN THE MATTER OF: TP Northern Odisha Distribution Limited (TPNODL),
Registered & Corporate Office: Januganj, Balasore, Odisha-756019.

.....Applicant

And

IN THE MATTER OF: All Stake Holders

Affidavit verifying the submission of TPNODL

I, Malancha Ghose, D/o Mahesh Chandra Ghose, aged about 49 years, residing at Balasore, do hereby solemnly affirm and state as follows: -

I am the Additional Chief Engineer-Regulatory of TP Northern Odisha Distribution Limited-the applicant in the above matter and duly authorised to swear this affidavit on its behalf.

The statements made in the application along with the annexures annexed to this application are true to the best of my knowledge and the statements made are based on information and records and I believe them to be true.

Date: 07/06/2026

The deponent, being identified by Sri- Advocate Balasore solemnly affirm and state that the facts stated above are true to his/her knowledge and believe and put his/her signature / LTI on this day of June 2026 A.M./P.M.
J.N. BEHERA
Notary Public, Balasore

Malancha Ghose
DEPONENT

**BEFORE THE ODISHA ELECTRICITY REGULATORY COMMISSION
PLOT NO.4, CHUNUKOLI, SAILASHREE VIHAR
CHANDRASEKHARPUR, BHUBANESWAR**

IN THE MATTER OF: Application under para 3.2 of OERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff), Regulations, 2022 for approval of Multi-Year Capital Investment Plan for the period FY 2026-27 to FY 2030-31 in the licensed area of TP Northern Odisha Distribution Limited in compliance to the Directives of the Hon'ble Commission under the Retail Supply Tariff (RST) Order for FY 2026-27 dated 24.03.2026.

And

IN THE MATTER OF: TP Northern Odisha Distribution Limited (TPNODL),
Registered & Corporate Office: Januganj, Balasore, Odisha-756019.

.....Applicant

And

IN THE MATTER OF: All Stake Holders

TPNODL, the above-named applicant, most respectfully showeth:

1. That, TP Northern Odisha Distribution Limited (TPNODL), the applicant has started operation with effect from 01.04.2021 in compliance to the Vesting Order of Hon'ble Commission dated 25.03.2021 in Case No.-9/2021.
2. That, the applicant distributes Electricity in the north eastern part of Odisha having 5 revenue districts namely Balasore, Mayurbhanj, Bhadrak, Keonjhar and Jajpur with around 27,857 Sq Km area of operation.
3. That, the Petitioner DISCOM is required to "supply electricity" in accordance with the provisions as laid down under section 42 of the Electricity Act, 2003 which provides for duties of the Distribution Licensee.

A. Background of Submission of the Petition

4. In compliance with the directives stipulated in the Vesting Order dated 25.03.2021 as well as the Odisha Electricity Regulatory Commission (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations 2014 and 2022, TPNODL since its commencement of operation has been submitting its Capital Investment plan every year for the approval of the Hon'ble Commission.

Malanika Ghose



5. The Odisha Electricity Regulatory Commission (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2022 (hereinafter referred to as "Tariff Regulations, 2022") requires submission of a Capital Investment Plan for each year of the Control Period. The relevant regulatory framework provides as follows:

"3.2.1. The Distribution Licensee shall submit detailed capital investment plan, financing plan and physical targets for each year of the Control Period for strengthening and augmentation of distribution network, meeting the requirement of load growth, reduction in distribution losses, improvement in quality of supply, reliability, metering, reduction in congestion, etc., to the Commission for approval, as a part of the Business Plan applicable for the entire control period and annual proposal for each year of the Control Period.

"3.2.2. The Distribution Licensee shall file a separate annual Capital Investment Plan comprising of capital investment plan, financing plan and physical targets for each year of the Control Period as per the timelines specified in Annexure-I."

6. In compliance to the above provision of the Tariff Regulations, 2022 the petitioner has submitted its Capital Investment Plan for FY 2026-27 vide submission dated 09.09.2025 (registered as Case No-81/2025). The Hon'ble Commission has approved the Capital Investment Plan of the petitioner for FY 2026-27 vide order dated 15.05.2026.
7. The Hon'ble Commission, in its Retail Supply Tariff (RST) Order for FY 2026-27 dated 24.03.2026, has issued certain directives for implementation by the petitioner in various areas including safety, protection, metering, AT&C loss reduction, and improvement of voltage profile in the distribution network. It is submitted that, implementation of these directives requires capital investment. Further, as the capital Investment Plan for FY 2026-27 was filed by the petitioner in September 2025, these directives were not part of the scope of the Capital Investment plan FY 2026-27 submitted by the petitioner and approval accorded by the Hon'ble Commission in order for Case No. 81 of 2025, dated 15.05.2026.
8. The directives that are issued by the Hon'ble Commission in Retail Supply Tariff Order dated 24.03.2026, implementation of which requires additional Capital Investment are reproduced below.

- a. Metering of 33 & 11 kV feeders, DTRs and Consumers (Para 267)

(XXXVII) Issue of Metering of all 33 kV & 11 kV feeders, associated DTRs and Consumers

267. During the Annual Performance Review for FY 2024-25, the information submitted by the DISCOMs reveal that the metering of all 33 kV feeders is yet to be completed. As per the data, metering of 33 kV feeders with correct meters of TPCODL, TPWODL, TPNODL & TPSODL are 63.74%, 100 %, 51.52%, and 96.84% respectively. While one DISCOM has achieved 33 kV feeder metering of 100%, the rest of the DISCOMs are required to complete the metering in the ensuing financial year. Further, the data indicate that about 97.63% of all the 11 kV feeders are metered. This is appreciable,

Manan Ghor



however, in the absence of 100% metering of all the 33 kV & 11 kV feeders and DTRs upto a certain capacity, necessary energy audit cannot be carried out, which is essential to identify the loss-making pockets. It has been brought to the notice of the Commission that not a single 11 kV feeder is in operation that has meters at all level (DTRs & Consumers connected to that feeder) in the operating area of any of the DISCOMs (TPNODL, TPWODL, TPSODL, TPCODL). Details of no. of 11 kV feeders, which are completely metered in all respect (i.e. metering of 11 kV feeder, metering of all associated DTRs of the feeder and metering of all consumers supplied through that feeder) need to be submitted along with total load on the feeder. If no such feeders are there, then details of no. of 11 kV feeders with metering of all associated DTRs (i.e. metering upto DTR level) need to be submitted within three months of issue of this order. **Based on loading level, all 11 kV feeders having high loss level need to be identified and prioritized, for metering upto consumer level (at least upto DTR level) and the target/time frame for completion of such work need to be intimated within next 3 months. The metering of at least 2 to 3 nos. of 11 kV feeders in each division (with high revenue earning) and associated DTRs & consumers need to be completed in all respect by the end of financial year 2026-27 to assess actual technical loss and AT&C loss.**

(Emphasis Supplied)

- b. Metering of Distribution Transformers (DTRs) (Para 268)

(XXXVII) Issue of Metering of all 33 kV & 11 kV feeders, associated DTRs and Consumers

267. During the Annual Performance Review for FY 2024-25, the information submitted by the DISCOMs reveal that the metering of all 33 kV feeders is yet to be completed. As per the data, metering of 33 kV feeders with correct meters of TPCODL, TPWODL, TPNODL & TPSODL are 63.74%, 100 %, 51.52%, and 96.84% respectively. While one DISCOM has achieved 33 kV feeder metering of 100%, the rest of the DISCOMs are required to complete the metering in the ensuing financial year. Further, the data indicate that about 97.63% of all the 11 kV feeders are metered. This is appreciable, however, in the absence of 100% metering of all the 33 kV & 11 kV feeders and DTRs upto a certain capacity, necessary energy audit cannot be carried out, which is essential to identify the loss-making pockets. It has been brought to the notice of the Commission that not a single 11 kV feeder is in operation that has meters at all level (DTRs & Consumers connected to that feeder) in the operating area of any of the DISCOMs (TPNODL, TPWODL, TPSODL, TPCODL). Details of no. of 11 kV feeders, which are completely metered in all respect (i.e. metering of 11 kV feeder, metering of all associated DTRs of the feeder and metering of all consumers supplied through that feeder) need to be submitted along with total load on the feeder. If no such feeders are there, then details of no. of 11 kV feeders with metering of all associated DTRs (i.e. metering upto DTR level) need to be submitted within three months of issue of this order. **Based on loading level, all 11 kV feeders having high loss level need to be identified and prioritized, for metering upto consumer level (at least upto DTR level) and the target/time frame for completion of such work need to be intimated within next 3 months. The metering of at least 2 to 3 nos. of 11 kV feeders in each division (with high revenue earning) and associated DTRs & consumers need to be completed in all respect by the end of financial year 2026-27 to assess actual technical loss and AT&C loss.**

Malanhe Ghose



(Emphasis Supplied)

- c. Issue of Interruption in an area due to Solitary Fault in one Consumer Premises (Para 269)

(XXXIX) Issue of Power supply interruption in an area due to solitary fault in one Consumer premises

It has been brought to the notice of the Commission, that the fault in one DTR of a 11 kV feeder affects the power supply of the neighbouring/ adjoining consumers/area. Further, numbers of small/medium category of industrial consumers are connected to common 33 kV or 11 kV feeder without proper protection system including SA to isolate the faulty section. This leads to power supply interruption of other industrial/other category of consumers connected to that feeder because of fault in one consumer's system. As per the submissions of the DISCOMs, they are installing auto re-closers, Sectionalizers, Ring main unit (RMU) and Fault Passage Indicator at strategic locations across the network to enable quick fault detection and sectional isolation. However, such issues continue to occur which not only affects the consumers but also the distribution business. **Therefore, DISCOMs must deploy the best practices in the distribution sector to ensure that the faulty section is easily isolated from the healthy section to maintain the continuity of supply. The DISCOMs are advised to segregate the industrial feeders, wherever feasible or where industrial load exceeds 60% of total load. The required protection system complete in all respect including Circuit Breakers, protection relays, Surge Arresters etc. must be provided to ensure reliable power supply to such category of consumers. The frequency and duration of outage (SAIDI & SAIFI) of such feeder(s) need to be submitted to the Commission by each DISCOM based on the data collected from the smart meters installed upto consumer level. (Emphasis Supplied)**

- d. Issue of segregation of loss making feeders (end to end metering) (Para 271 & 272)

(XLI) Issue of segregation of loss making feeders (end to end metering)

271. The Commission has approved huge investment under CAPEX and the Government has also supported the cause in the form of Government grants to strengthen & expand the Distribution system of the State. It is a fact that there are 11 kV feeders operating with losses more than 80%. Given the fact that loss is an expenditure in the ARR, the cost of such loss, irrespective of the cause is an extra burden to the paying consumers of the state. Immediate action is necessary by the DISCOM in such areas where the loss level is so high (>80%). As per the submission of TPWODL, there are still 47 high loss 11 kV feeders with loss greater than 80% and majority of such feeder is in Bargarh District. Similarly, in TPNODL operational area, there are 13 feeders which exhibit AT&C loss greater than 80%. **Therefore, the Commission directs the DISCOMs to install Smart Meters upto consumer level in all such 11 kV feeders where the AT&C loss is greater than 50% from end to end. Further, the concept coined by TPWODL as Model Village is noteworthy and initiative should be taken by all the DISCOMs to materialise this concept in such high loss-making areas by necessary planning, considering ground realities.**

Manuella Lybore



272. Each DISCOM is directed to list out such feeder and prioritize them based on quantum of load catered through such feeders and to take appropriate action to reduce the AT&C loss from present loss level by end of financial year 2026-27 in following manner.

Table-40

11 kV feeders with technical loss level	Technical loss level reduction by end of the FY 2026-27
>80%	By 50% of existing level of loss
Between 50% to 80%	By 30% of existing level of loss
Between 20% to 50%	By 20% of existing level of loss

(Emphasis Supplied)

- e. Power Quality Monitoring (Para 287)

(L) Power Quality Monitoring for Industries injecting Harmonics to the system.

287. DISCOMs have to **initiate power quality monitoring primarily to identify the industries** responsible for injection of harmonics into the system and causing flickering & fluctuation in voltage etc. Accordingly, penalty would be introduced by the Commission if adequate remedial measures are not taken by industries to reduce harmonics injection at the point of coupling with the grid.
(Emphasis Supplied)

- f. Issue of Uninterrupted Power Supply in Urban areas : (Para 289)

(LII) Issue of Uninterrupted Power Supply in Urban Areas .

289.

TPNODL has already declared 15 sq. km. of Balasore area covering important Government establishments to provide uninterrupted power supply by March 2026 in line with direction of the Commission. Such initiative for development of distribution network infrastructure is to be extended to entire city of Balasore and other cities & other areas in phases. **Similarly, other three DISCOMs (TPCODL, TPWODL, TPSODL) are directed to declare/ensure 24x7 power supply with minimum/zero interruption to some areas (in sq.km.) of the major cities in their area of operation, which are to be extended to other areas of operation of the DISCOM(s) in phases.**
(Emphasis Supplied)

- g. Guard Wire for Road Crossings : (Para 299)

(LXII) Guard Wires for Road Crossings .

299. Provision of **Guard wires have to be made for 33 kV & 11 kV overhead lines crossing over National & State Highway, roads in populated areas and the work has to be completed by each DISCOM (TPNODL, TPSODL, TPWODL, TPCODL) by FY 2026-27.**

(Emphasis Supplied)

- h. Metering and Protections for DTRs : (Para 300)

(LXIII) Failure of DTRs & Provision for Required Metering and Protection.

Maharaja Ghosh



300. It is understood that about 10,000 Nos. of DTRs in the Distribution System are failing every year resulting in loss of about Rs.100 Cr. per annum. As reported, DTR failures are primarily due to lightening and inadequate protection on HV & LV side. Therefore, protection of DTR including provision of Surge Arresters is essential and all DTRs must be provided with required protection on HV & LV side to minimize the failure. **All DISCOMs are directed to provide required metering and protections on HV & LV side of (a) DTRs of 63 KVA and above by FY 2026-27 and (b) DTRs of 25 KVA and above upto 63 KVA by 2027-28 (c) DTRs below 25 KVA in subsequent financial years indicating time line for completion or replacement of DTRs of less than 25 KVA by higher capacity DTRs.**

(Emphasis Supplied)

- i. Length of LT Feeders and Low Voltage issues : (Para 301)

(LXIV) Length of LT feeders and low voltage issue in Urban & Rural Areas

301. The long LT feeders is considered to be one of the main reasons for low voltage in certain pockets. Hence, each DISCOM is directed to provide information relating to number of LT feeders which are more than 500 meters (from the DTRs) in their area of operation and remedial measures being taken to reduce the length of such LT feeders. **The time line for addressing low voltage issue, particularly in urban area & major cities shall be submitted to the Commission by the DISCOMs within 3 months of issue of this tariff order.**

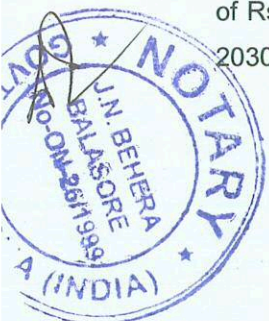
(Emphasis Supplied)

9. The above directives of Tariff Order dated 24.03.2026 are in the nature of mandatory compliance requirements for which capital investments are required and hence form the basis of the Capital Investment Plan being submitted in this instant petition for approval of Hon'ble Commission.

B. Submission of the Petitioner

10. For implementation and compliance of the above directives of the Tariff Order dated 24.03.2026 in a time-bound manner, the petitioner has prepared a Capital Investment Plan consisting of Detailed Project Report (DPR) under seven broad heads as below:
- a) Complete metering of 2-3 Nos. of 11 kV feeders & associated DTRs and Consumers in each Division
 - b) DTR Metering upto and including 63 kVA
 - c) AT&C Loss Reduction in 11 kV feeders
 - d) Installation of Guard Wires for 33 kV & 11 kV overhead lines crossing over National & State Highway
 - e) Protection system on HV & LV side of DTRs of 25 KVA and above
 - f) Protection system on HV & LV side of DTRs of 250 KVA above
 - g) Timeline for addressing Low Voltage issues in urban and major city areas
11. The Board of Directors of TPNODL, at its meeting held on 22nd April 2026, has accorded approval of Rs. 1,720.90 Cr towards above proposed Capital Investment over the period FY 2026-27 to FY 2030-31. A certified true copy of the Board Approval is enclosed as Annexure-5 to this submission.

Mahesh Ghose

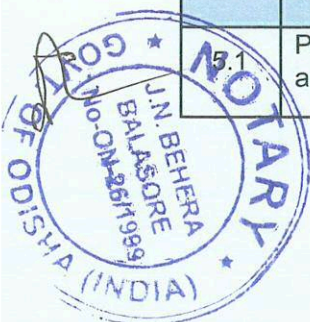


12. The detailed Capital Investment Plan consisting of Detailed Project Report (DPRs) that includes scheme-wise scope, technical justification, phasing of investment, cost breakup, and cost-benefit analysis is provided in the Annexure-1 to this petition.
13. The summary of the proposed Additional Capital Investment Plan is provided in the table below:

Table-A: Summary of the Proposed Capital Investment Plan

Sl. No.	Direction of the Commission (RST Order FY 2026-27)	UoM	Proposed Qty	Amount ₹ in crore
1	Complete metering of 2-3 Nos. of 11 kV feeders & associated DTRs and Consumers in each Division			
1.1	Installation of smart meters of consumes on 11kV Feeders (48 Nos') having High Revenue	EA	166009	62.5
2	DTR Metering upto and including 63 kVA			
2.1	Installation of DTR Meter on 11kV Feeders (48 Nos') having High Revenue	EA	2023	2.62
2.2	Installation of DTR Meter Remaining ≥ 63 KVA	EA	1200	1.99
3	AT&C Loss Reduction in 11 kV feeders			
3.1	Installation of DTR Meter on 11kV Feeders (41 Nos') having AT&C loss $>50\%$	EA	1262	1.63
3.2	Installation of smart meters of consumes on 11kV Feeders (41 Nos') having AT&C loss $>50\%$	EA	52981	19.9
3.2	Conversion of LT Bare to AB Cable on high loss DTs across TPNODL	Ckm	2781	235.02
4	Installation of Guard Wires for 33 kV & 11 kV overhead lines crossing over National & State Highway			
4.1	Installation of Cradle/ Guard wire in Overhead feeders at road crossings (33KV & 11KV)	EA	4591	211.34
4.2	Laying of Underground cable at NH / SH and other road crossings (33KV)	Ckm	1.4	3.70
4.3	Laying of Underground cable at NH / SH and other road crossings (11KV)	Ckm	21.77	45.88
5	Protection system on HV & LV side of DTRs of 25 KVA and above			
5.1	Protection system on HV & LV side of DTRs of 25 KVA and above	EA	43,831	960.4

Malabika Ghose



Sl. No.	Direction of the Commission (RST Order FY 2026-27)	UoM	Proposed Qty	Amount ₹ in crore
6	Protection system on HV & LV side of DTRs of 250 KVA above			
6.1	Protection system on HV Side of DTR 250KVA & above	EA	1058	83.9
7	Timeline for addressing Low Voltage issues in urban and major city areas			
7.1	Augmentation of overloaded DTR	EA	215	50.1
7.2	Installation of New DTR along with associated lines at load centre	EA	225	41.9
Total Cost				1720.90

The above capital investment (Rs.1,720.90 Cr.) represents Hard Cost only, i.e., without considering Employee Cost capitalized and Interest During Construction (IDC). The Employee Cost associated with the projects and the IDC on the Debt Component (70%) shall be in addition to the Hard Cost and shall be allowed to be capitalized as per applicable regulatory provisions.

14. It is submitted that Employee Cost associated with the projects covered under this Capital Investment Plan would also form a part of the Capex and would be eventually capitalized along with the respective capital expenditure scheme. The cost towards employees working on such projects shall be separate, i.e., in addition to the Hard Cost amount proposed in this petition.
15. Similarly, the Interest During Construction (IDC) is required to be worked out on the Debt Component (70% of the Capex) and would depend on the quantum and timing of capital expenditure incurred during each year. The IDC amount shall need to be added to the Hard Cost and Employee Cost for the purposes of capitalization.

Phasing of the Capital Investment Plan

16. This proposed capital investment shall be implemented in a phased manner over FY 2026-27 to FY 2030-31. The tentative phasing of the investment is as detailed in the table below: The Detailed time frame of expenditure is attached as **Annexure-2**.

Malanika Ghose



Table B: Year-wise Phasing (Rs. in Cr.)

Sl. No.	Proposal Details (As per the direction of Commission)	Amount	Budget breakup in 5Years				
			FY27	FY28	FY29	FY30	FY31
1	Complete metering of 2-3 Nos. of 11 kV feeders & associated DTRs and Consumers in each Division						
1.1	Installation of smart meters of consumes on 11kV Feeders (48 Nos') having High Revenue	62.5	10.6	25.6	25.6	0.6	0
2	DTR Metering upto and including 63 kVA						
2.1	Installation of DTR Meter on 11kV Feeders (48 Nos') having High Revenue	2.62	1	1.6	0	0	0
2.2	Installation of DTR Meter Remaining >=63 KVA	1.99	0.8	1.2	0	0	0
3	AT&C Loss Reduction in 11 kV feeders						
3.1	Installation of DTR Meter on 11kV Feeders (41 Nos') having AT&C loss >50%	1.63	0.3	0.4	0.5	0.3	0.2
2.2	Installation of smart meters of consumes on 11kV Feeders (41 Nos') having AT&C loss >50%	19.9	3.4	5	5.6	3.6	2.4
3.2	Conversion of LT Bare to AB Cable on high loss DTs across TPNODL	235.02	40	58.8	65.8	42.3	28.2
4	Installation of Guard Wires for 33 kV & 11 kV overhead lines crossing over National & State Highway						
4.1	Installation of Cradle/ Guard wire in Overhead feeders at road crossings (33KV & 11KV)	211.34	35.9	52.8	59.2	38	25.4
4.2	Laying of Underground cable at NH / SH and other road crossings (33KV)	3.7	0.6	0.9	1	0.7	0.4
4.3	Laying of Underground cable at NH / SH and other road crossings (11KV)	45.88	7.8	11.5	12.8	8.3	5.5
5	Protection system on HV & LV side of DTRs of 25 KVA and above						
5.1	Protection system on HV & LV side of DTRs of 25 KVA and above	960.4	103.4	180.2	307.3	240.1	129.4
6	Protection system on HV & LV side of DTRs of 250 KVA above						
6.1	Protection system on HV Side of DTR 250KVA & above	83.9	14.3	21	23.5	15.1	10.1

Mafarika



7	Timeline for addressing Low Voltage issues in urban and major city areas						
7.1	Augmentation of overloaded DTR	50.1	8.5	12.5	14	9	6
7.2	Installation of New DTR along with associated lines at load centre	41.9	7.1	10.5	11.7	7.5	5
Total Amount in Cr.		1720.9	233.7	381.9	527.1	365.5	212.6

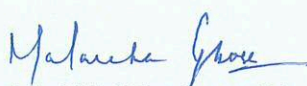
C. Prayers

TPNODL Prays that the Hon'ble Commission may kindly be pleased to:

1. Approve the Capital Investment of Rs. 1720.90 Crores (Hard Cost) to be incurred over FY 2026-27 to FY 2030-31 which is required for implementation of the various directives stipulated in the Retail Supply Tariff Order dated 24.03.2026.
2. Allow Employee Cost and Interest During Construction (IDC), based on actuals, to be capitalized over and above the approved Capex (Hard Cost) for the aforesaid period.
3. Permit carrying forward of any unspent Capital Expenditure under this Capex Plan to subsequent financial years.
4. That, the petitioner craves leave for submission of further /additional reply as and when required by the Hon'ble Commission.
5. Grant any other relief as deemed fit and proper in the facts and circumstances of the case.
6. Pass any other direction as the Hon'ble Commission may think appropriate.

Place: Balasore

Date:


Addl. Chief Engineer-RA

For and on behalf of

TP Northern Odisha Distribution Limited



APPENDIX

List of Content

Annexure 1 – Detail Proposal

Annexure 2– Time frame of the expenditure

Annexure 3– Location (Submitted in Soft Copy)

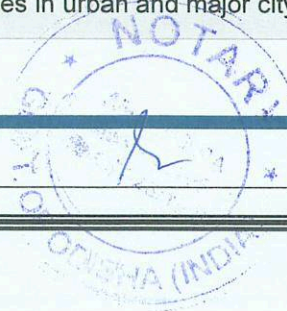
Annexure 4– BoQ

Annexure 5– Board Approval Copy



Capital investment schemes details for In-Principal approval

Overview of the Detailed Project Report	
Index with the documents Page No.	Attached in Page No-vi
Name of Applicant	TP Northern Odisha Distribution Limited
Name of the Capital Investment Work	Additional Multiyear Capital Expenditure for Compliance of Direction from Commission (RST Order FY'2026-27)
Nature of capex Scheme (New/ Resubmitted / revised / modified / extended)	New CAPEX scheme is being submitted as per Direction of the Commission (RST Order FY'2026-27)
Details of the Location	Attached Annexure-3
Date of Approval by Competent Authority designated by the Board of Directors of the Company	Date of Approval 22-04-26. Certified True Copy attached in Annexure-05
Category of DPR	As Per Para 3.9 of Draft CAPEX Regulation-2026 1. System strengthening for enhancing capacity 2. Capacity augmentation of distribution lines and transformers 3. Improvement in quality of supply, safety and reliability of distribution system 4. Metering (DTR Metering, Consumer Metering)
Objective of the Capital Investment	In line with the directive received from Hon'ble Commission in the Tarriff Order the proposed works aim to improve energy accounting and accountability, enhance measurement accuracy and loss identification, reduce AT&C losses, strengthen system reliability at critical crossings, improve public safety through guarding measures, enhance protection of distribution assets, and improve voltage profile and quality of supply in urban and major city areas.
Need Analysis	The scheme is proposed to address gaps in feeder, DTR, and consumer metering for improved energy accounting; inadequate DTR metering coverage up to 63 kVA; high AT&C losses on identified 11 kV feeders; reliability concerns at NH, SH, and major crossings; public safety issues due to absence of guarding at road crossings; inadequate HT and LT protection at DTR level; and persistent low voltage issues in urban and major city areas



Additional CAPEX 26-27 To Compliance Direction of the Commission (RST Order FY 2026-27)

Overall cost-benefit analysis	Cost benefit analysis details mentioned in respected schemes in the Detailed Project Report																	
Brief Scope and Specifications of Work	Detail Scope of work and specifications considered under respective schemes mentioned in the DPR.																	
Estimated cost (Rs Cr.)	1720.9 Cr.																	
Time frame of the expenditure	<table><tr><th rowspan="2">Total Amount (Cr.)</th><th colspan="5">Budget breakup in 5 Years</th></tr><tr><th>FY'27</th><th>FY'28</th><th>FY'29</th><th>FY'30</th><th>FY'31</th></tr><tr><td>1720.9</td><td>233.7</td><td>381.9</td><td>527.1</td><td>365.5</td><td>212.6</td></tr></table>	Total Amount (Cr.)	Budget breakup in 5 Years					FY'27	FY'28	FY'29	FY'30	FY'31	1720.9	233.7	381.9	527.1	365.5	212.6
Total Amount (Cr.)	Budget breakup in 5 Years																	
	FY'27	FY'28	FY'29	FY'30	FY'31													
1720.9	233.7	381.9	527.1	365.5	212.6													
Benefits/Impact	Improvement in voltage profile, reduction in AT&C losses, enhanced safety and reliability, reduction in faults and outages, improved consumer service, and strengthening of overall distribution infrastructure																	
Need of the investment	The proposed capital investment is essential for compliance with the directives of the Hon'ble OERC under the RST Order FY'2026–27. TPNODL distribution network requires strengthening to address critical issues related to safety, reliability, voltage profile, and AT&C loss reduction. Existing challenges such as aged infrastructure, unsafe overhead crossings, inadequate DTR protection systems, long LT feeders, higher technical losses and overloaded network elements are resulting in, public safety risks, and poor quality of supply. The proposed works will enhance operational safety, reduce electrical hazards and outages, improve voltage profile, strengthen asset protection, reduce AT&C losses, and ensure safe, reliable, and efficient power supply across the TPNODL license area.																	

Annexure 1 – Detail Proposal



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1. Introduction

TP North Odisha Distribution Limited (TPNODL) was incorporated as a joint venture of the Tata Power Company and Odisha Government on the Public-Private Partnership (PPP) model, holding a majority stake of 51%. TPNODL utility took over the license for distribution and retail supply of electricity in the northern region of Odisha as permitted by Hon'ble Odisha Electricity Regulatory Commission (OERC), which was earlier served by erstwhile NESCO utility, through a competitive bidding process. TPNODL as a Tata Power's Distribution in Odisha serves the population around 97 Lakhs with the Customer Base of over 20.54 Lakh and extended around a vast Distribution Area of 27857 Sq. Km (approx. 28,000 Sq. Km). The working of the entire electrical power sector of Odisha state is regulated by OERC, from the determination of tariff chargeable to end consumers to establishment of performance norms (mainly related to Loss reduction, Safety, Reliability of power supply and Consumer service delivery).

As per the Tariff Order for FY'2026–27, the Odisha Electricity Regulatory Commission (OERC) has issued specific directives, compliance requirements, and operational guidelines for DISCOMs. To ensure timely compliance with these directions, necessary capital investments are envisaged. Accordingly, this DPR is being submitted for approval of the proposed Additional CAPEX in the TPNODL license area.

Under this DPR, TPNODL proposes a multi-year period investment of **₹1720.9 Cr.** focused on key areas including enhancement of network safety, improvement of voltage profile, strengthening of distribution infrastructure, and reduction of AT&C losses through a systematic and phased implementation approach.

The proposed investments aim to protect human lives, safeguard critical electrical assets, improve reliability and operational efficiency of the distribution network, reduce technical and commercial losses, and ensure compliance with statutory and regulatory requirements. The scheme will also support improvement in voltage profile in urban and major city areas and enable delivery of safe, reliable, and quality power supply to consumers.



2. TPNODL Network Overview

TPNODL license distribution area is geographically spread over 27857 Sq. Km with coastal line of about 150 Kms. It serves the registered consumer base of 20.54 Lakhs. TPNODL procures power from a state-owned company called Grid Corporation of Odisha (GRIDCO). It receives electrical power from Odisha Power Transmission Company Limited's (OPTCL) - 220/132/33 kV Grid Substations at 33KV (Sub transmission voltage) and then distributes the power at 33KV / 11KV / 440V / 230V depending upon the consumers' demand. For effective and efficient operations, license area is distributed into 5 circles which is further sub divided in 16 Divisions, 50 Sub-division & 159 sections which manages the commercial and O&M activities in order to serve its consumer.

Key Information about TPNODL

Sl. No.	Particulars	Unit	Details
1	Area	Sq kM	27,857
2	Number of Circle	Nos.	5
3	Number of Divisions	Nos.	16
4	Number of Sub Divisional Offices	Nos.	50
5	Number of 33kV feeders	Nos.	137
6	Number of 11kV feeders	Nos.	909
7	33kV Ckt length	CkM	3821
8	11kV Ckt length	CkM	42864
9	No. of 33/11kV PSS	Nos.	254
10	No. of 33/11kV PTRs	Nos.	576
11	No. of DT	Nos.	87572
12	LT length	CkM	69396
13	Installed Capacity (PTR)	MVA	2862
14	Installed Capacity (DT)	MVA	3611



3. Focus area in this DPR

This document presents the details of existing network assets, their current condition and the key challenges associated with ensuring safety, reliability and quality power supply, ensuring comprehensive metering and reducing AT&C losses. It further outlines the proposed action plan to address these challenges through targeted interventions, aimed at improving network performance, enhancing safety standards and ensuring reliable and quality power supply to end consumers.

The DPR is prepared under following major heads to meet directive of the Commission: -

- 1. Complete metering of 2 or 3Nos. of 11kV feeders & associated DTRs and Consumers in each Division-** End-to-end metering of 2–3 selected 11 kV feeders in each Division, including associated DTRs and consumers, along with metering at interconnection and branch points, is proposed to enable accurate energy accounting, effective energy auditing, identification of high loss making pockets, thereby supporting AT&C loss reduction and overall system efficiency improvement.
- 2. DTR Metering up to and including 63kVA** - To enable transformer-wise energy auditing, accurate assessment of technical losses, identification of loss- and theft-prone areas, and effective monitoring of transformer loading. This will support targeted network improvements, enhance billing efficiency, improve system reliability, and ensure compliance with regulatory requirements.
- 3. AT&C Loss Reduction in 11kV feeders** - 11kV feeders with high AT&C losses are identified and proposal are considered for reduction of AT&C Loss of these feeders. The plan includes strengthening DTR metering to enable transformer-wise energy accounting and identification of loss pockets, installation of smart meters for all remaining consumers to ensure accurate billing, real-time monitoring, theft detection and conversion of LT bare conductors to LT AB cables in these areas to prevent pilferage and improve safety. These measures collectively aim to enhance feeder performance, improve billing efficiency, reduce technical and commercial losses and ensure sustainable AT&C loss reduction in compliance with regulatory requirements.
- 4. Installation of Guard Wires for 33 kV & 11 kV overhead lines crossing over National & State Highway:**
 - 4.1** To prevent the risk of conductor snapping and accidental contact at road crossings, thereby reducing safety hazards, improving network reliability and ensuring compliance with regulatory directives
 - 4.2** Laying of 33kV Underground Cables at NH / SH and other major crossings - To provide a more robust and permanent solution, ensuring safety and minimizing disruption to traffic flow, reducing safety hazards with improving network reliability.

4.3 Laying of 11kV Underground Cables at NH / SH and other major crossings - To provide a more robust and permanent solution, ensuring safety and minimizing disruption to traffic flow, reducing safety hazards with improving network reliability.

- 5. Provision for DTR HV and LV Protection 25 KVA and above –** This includes provision and standardization of HT and LT protection systems for all DTR's to enable safe operation, effective fault isolation, improved asset protection and enhanced network reliability by providing Lighting arrester, AB Switch, DO Fuse & LTDB's. This will also support preventive maintenance, minimize outages and ensure compliance with regulatory directives.
- 6. Provision for HV side Protection DTR 250 KVA & above–** This includes provision and standardization of HT for all 250 KVA DTR's & above to enable safe operation, effective fault isolation, improved asset protection and enhanced network reliability by providing Lighting arrester & single breaker RMU's. This will also support preventive maintenance, minimize outages and ensure compliance with regulatory directives.
- 7. Addressing Low Voltage issues in Urban & Major City Areas -** Tail-end consumers in urban and high-density areas are experiencing poor voltage profiles, and degraded quality of supply which in turn leads to higher technical losses. To address this power quality related issue, mitigation proposal is proposed like: LT Network Extension, Augmentation of DTR with LT Extension, Addition of new DTR with HT and LT Extension.

These measures will improve metering provision for close monitoring of AT&C Losses, improve AT&C losses of identified feeders, improved safety through guarding, improve reliability through HV & LV protection of DTRs, improve voltage profile in compliance with regulatory directives.

For strengthening of the electrical network, standard network design principles have been adopted and the BoQ has been prepared accordingly. The proposed investments are aimed at AT&C Loss Reduction with energy accounting, strengthening network safety, ensuring compliance with statutory norms and improving overall system reliability.

The details of Projects mentioned in below table:

Summary of Total Schemes Estimated Cost

Sl. No.	Direction of the Commission (RST Order FY 2026-27)	UoM	Proposed Qty	Amount ₹ in crore
1	Complete metering of 2-3 Nos. of 11 kV feeders & associated DTRs and Consumers in each Division			
1.1	Installation of smart meters of consumes on 11kV Feeders (48 Nos') having High Revenue	EA	166009	62.5
2	DTR Metering upto and including 63 kVA			
2.1	Installation of DTR Meter on 11kV Feeders (48 Nos') having High Revenue	EA	2023	2.62

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Sl. No.	Direction of the Commission (RST Order FY 2026-27)	UoM	Proposed Qty	Amount ₹ in crore
2.2	Installation of DTR Meter Remaining ≥ 63 KVA	EA	1200	1.99
3	AT&C Loss Reduction in 11 kV feeders			
3.1	Installation of DTR Meter on 11kV Feeders (41 Nos') having AT&C loss $>50\%$	EA	1262	1.63
3.2	Installation of smart meters of consumes on 11kV Feeders (41 Nos') having AT&C loss $>50\%$	EA	52981	19.9
3.2	Conversion of LT Bare to AB Cable on high loss DTs across TPNODL	Ckm	2781	235.02
4	Installation of Guard Wires for 33 kV & 11 kV overhead lines crossing over National & State Highway			
4.1	Installation of Cradle/ Guard wire in Overhead feeders at road crossings (33KV & 11KV)	EA	4591	211.34
4.2	Laying of Underground cable at NH / SH and other road crossings (33KV)	Ckm	1.4	3.70
4.3	Laying of Underground cable at NH / SH and other road crossings (11KV)	Ckm	21.77	45.88
5	Protection system on HV & LV side of DTRs of 25 KVA and above			
5.1	Protection system on HV & LV side of DTRs of 25 KVA and above	EA	43,831	960.4
6	Protection system on HV & LV side of DTRs of 250 KVA above			
6.1	Protection system on HV Side of DTR 250KVA & above	EA	1058	83.9
7	Timeline for addressing Low Voltage issues in urban and major city areas			
7.1	Augmentation of overloaded DTR	EA	215	50.1
7.2	Installation of New DTR along with associated lines at load centre	EA	225	41.9
Total Cost				1720.90

TPNODL proposes an expenditure of ₹ 1720.9 Cr. under this DPR.



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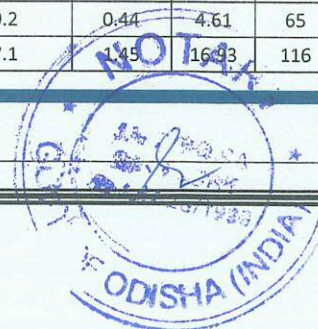
A. AT&C Loss Reduction and Distribution Network Metering

I) Need of Investment

There is an absence of complete metering across 11kV feeders with associated Distribution Transformers and end consumers. This lack of energy accounting limits visibility of energy flow across the distribution network, affects accurate technical and commercial loss assessment, and monitoring and control over high-loss areas.

As a result, several 11kV feeders continue to exhibit high AT&C losses due to metering gaps, inadequate feeder-wise and transformer-wise energy auditing, theft-prone LT networks, and system inefficiencies. In absence of smart meter at feeder branches, energy flow cannot be monitored independently, making it difficult to identify specific high-loss pockets and take corrective action.

48 Nos. High Revenue Feeders									
Sl. No.	Circle	Division	Feeder Name	Feeder input (MUs) - Apr'25 to Feb'26	Billed (MUs) - Apr'25 to Feb'26	MU Loss Apr'25 to Feb'26	T&D Loss	Total DTR	Unmetered DTR
1	Balasore	BED	INDUSTRIAL-1	17.6	17.5	0.07	0.38	4	0
2	Balasore	BED	BALARAMGADI	19.9	17.5	2.37	11.91	10	4
3	Balasore	BED	KURUDA	16.4	15.2	1.24	7.58	89	65
4	Balasore	BtED	KHAPARAPADA	9.3	6.3	3.00	32.2	122	77
5	Balasore	BtED	SARTHA	13.6	9.6	4.00	29.42	158	96
6	Balasore	BtED	VELLORE	11.5	7.1	4.36	38.01	164	119
7	Balasore	CED	REMUNA	16.0	12.0	3.97	24.83	128	76
8	Balasore	CED	NO-III	5.5	4.8	0.71	12.88	3	0
9	Balasore	CED	NILAGIRI	6.4	5.7	0.66	10.43	64	35
10	Balasore	JED	TOWN	14.3	11.8	2.54	17.75	63	13
11	Balasore	JED	MEDICAL	12.4	11.3	1.05	8.45	78	28
12	Balasore	JED	CHANDANESWAR	13.8	12.0	1.85	13.37	139	76
13	Balasore	SED	SOROTOWN	14.6	10.0	4.60	31.39	39	6
14	Balasore	SED	UTTARESWAR	7.6	6.8	0.86	11.25	41	15
15	Balasore	SED	KHANTAPADA	6.1	5.3	0.81	13.19	80	43
16	Baripada	BPED	JUBILEE	13.7	12.5	1.26	9.19	29	5
17	Baripada	BPED	AMBICA UG	6.5	9.7	-3.25	-50.22	26	2
18	Baripada	BPED	MADHUBAN	12.0	10.1	1.88	15.67	39	10
19	Baripada	RED	DUBULABEDA	10.6	8.7	1.84	17.39	57	24
20	Baripada	RED	KARANJATOWN	7.7	7.5	0.17	2.17	65	29
21	Baripada	RED	TATO	8.6	7.4	1.22	14.13	199	133
22	Baripada	UED	UDALA-2	9.1	6.8	2.28	25.16	40	15
23	Baripada	UED	DUKURA	7.7	7.0	0.63	8.28	251	162
24	Baripada	UED	UDALA	6.4	5.8	0.62	9.68	38	13
25	Bhadrak	BNED	CHARAMPA-I	15.8	14.5	1.27	8.03	61	20
26	Bhadrak	BNED	BANTHCHAAK	11.7	10.1	1.56	13.36	42	19
27	Bhadrak	BNED	EREIN	9.6	9.2	0.44	4.61	65	31
28	Bhadrak	BSED	DHUSURI	8.6	7.1	1.45	16.93	116	59



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48 Nos. High Revenue Feeders									
Sl. No.	Circle	Division	Feeder Name	Feeder input (MUs) - Apr'25 to Feb'26	Billed (MUs) - Apr'25 to Feb'26	MU Loss Apr'25 to Feb'26	T&D Loss	Total DTR	Unmetered DTR
29	Bhadrak	BSED	ARADI	7.2	7.1	0.15	2.13	155	108
30	Bhadrak	BSED	DHAMNAGAR	9.2	5.4	3.83	41.48	98	57
31	Jajpur	JRED	UMAPADA	16.1	16.2	-0.14	-0.9	32	17
32	Jajpur	JRED	DALABAZAR	13.8	12.6	1.26	9.14	72	21
33	Jajpur	JRED	SAPAGADIA	13.4	11.1	2.35	17.49	74	33
34	Jajpur	JTED	TOWN-II	19.2	17.0	2.20	11.43	45	6
35	Jajpur	JTED	TOWN-I	10.5	12.2	-1.68	-16.07	82	31
36	Jajpur	JTED	BIRAJAHATA	8.8	7.9	0.97	11	51	17
37	Jajpur	KED	DHARAMSALA	14.7	11.6	3.15	21.42	91	43
38	Jajpur	KED	BARABATI	11.1	8.8	2.23	20.2	104	60
39	Jajpur	KED	BAGHUA	5.7	5.4	0.28	4.89	86	72
40	Keonjhar	AED	BALARAMPUR	9.1	7.3	1.83	20.07	116	89
41	Keonjhar	AED	GHASIPURA	6.3	5.9	0.41	6.6	37	11
42	Keonjhar	AED	SALAPADA	7.4	6.8	0.62	8.29	49	17
43	Keonjhar	JoED	BAMBARI	16.2	12.2	4.07	25.05	122	92
44	Keonjhar	JoED	BOLANI	14.3	12.2	2.11	14.75	79	37
45	Keonjhar	JoED	TOWN	17.2	14.5	2.75	15.97	12	5
46	Keonjhar	KED	TOWN-III	14.0	15.3	-1.32	-9.48	127	86
47	Keonjhar	KED	TOWN-I	12.4	10.8	1.65	13.3	39	21
48	Keonjhar	KED	TOWN-IV	7.8	7.6	0.14	1.81	58	25
Total				547.5	477.1	70.3		3739	2023

41 Nos. High AT&C Losses Feeder						
Sl. No	Circle	Division	11kV Feeder Name	AT & C LOSS (%)	DT Count	DT to be Metered
1	Balasore	BED	RANASAH	68.74	80	41
2	Balasore	BtED	RASALPUR	59.07	22	13
3	Balasore	BtED	FISERY	81.36	40	7
4	Balasore	CED	CHHANUA	62.85	119	50
5	Balasore	CED	INDUSTRIAL	50.05	65	22
6	Balasore	CED	GUDUDA	79	6	3
7	Balasore	CED	HATIAGAND	58.84	17	16
8	Balasore	JED	MAHULIA -1	416.7	57	19
9	Balasore	JED	PUTINA(GABAGAON)	84.96	87	52
10	Baripada	BPED	KOCHILAKHUNTA	65.65	7	4
11	Baripada	BPED	KEUTUNIMARI	1545.36	59	40
12	Baripada	BPED	KUSUMBANDHA	575.95	105	37
13	Baripada	BPED	BUDHI KHAMARI	67.14	49	36
14	Baripada	BPED	SORISOPAL	84.09	56	37
15	Baripada	BPED	MORADA BAZAR	57.41	3	2
16	Baripada	RED	MAHULADIHA	341.6	216	115
17	Baripada	RED	RAYHARI	285.89	33	15

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41 Nos. High AT&C Losses Feeder						
Sl. No	Circle	Division	11kV Feeder Name	AT & C LOSS (%)	DT Count	DT to be Metered
18	Baripada	RED	BISOI BAZAR	75.9	7	3
19	Baripada	RED	EXPRESS	91.28	12	2
20	Baripada	UED	KALAMGADIA	555.73	125	94
21	Bhadrak	BNED	CHANDAN BAZAR	56.56	51	23
22	Bhadrak	BNED	PIRHAT	83.7	43	9
23	Bhadrak	BNED	FALCON	95.95	5	2
24	Bhadrak	BSED	BANDAL	69.24	39	19
25	Bhadrak	BSED	KULANA	57.76	31	23
26	Jajpur	JRED	DANAGADI	57.22	13	4
27	Jajpur	JRED	TELIBAHALI	95.78	71	29
28	Jajpur	JRED	TUNGEISUNI	70.75	72	68
29	Jajpur	JRED	PALASA	84.28	26	14
30	Jajpur	JTED	KAYANGOLA	446.6	133	63
31	Jajpur	KuED	HARIPUR	52.98	100	65
32	Jajpur	KuED	BAZARGHAT	69.03	35	19
33	Jajpur	KuED	MANDIA	58.57	89	47
34	Jajpur	KuED	NEULAPUR	61.05	13	10
35	Jajpur	KuED	BARADA	57.67	49	15
36	Jajpur	KuED	ATIRA	57.96	119	73
37	Jajpur	KuED	RATNAGIRI	73.43	67	41
38	Keonjhar	AED	MACHHALO	609.79	24	13
39	Keonjhar	AED	SADANGA	58.72	92	59
40	Keonjhar	KED	KRUSHNAPUR	55.23	46	40
41	Keonjhar	KED	BANSNALI	92.78	19	18
Total					2302	1262

To address these issues, investment is proposed for strengthening the metering and LT distribution infrastructure in identified high AT&C loss making feeders. The proposed works include:

- Strengthening of DTR metering, to enable transformer-wise energy accounting and identification of loss /theft prone areas.
- Installation of smart meters for all consumers at identified high AT&C loss feeders to ensure complete consumer metering, accurate billing, real-time monitoring, and theft detection.
- Replacement of tamper-prone service cable to avoid possibilities of theft.
- Conversion of LT bare conductors to LT AB cables in theft-prone areas to reduce pilferage, improve safety, and enhance system reliability.

The proposed investment will improve feeder monitoring, strengthen energy accounting, support targeted loss reduction measures, improve billing efficiency, and ensure sustainable reduction of AT&C losses in compliance with regulatory directives.

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II) Timelines of the Project and Phasing of Investment

The proposed scheme shall be implemented in a phased manner over a period of 5 Years from the date of approval. The tentative prioritisation and implementation schedule is as follows:

Sl. No.	Direction of the Commission (RST Order FY 2026-27)	Amount ₹ in crore	Description	Budget breakup in 5 Years (Cr.)				
				FY-27	FY-28	FY-29	FY-30	FY-31
1	Complete metering of 2-3 Nos. of 11 kV feeders & associated DTRs and Consumers in each Division							
1.1	Installation of smart meters of consumes on 11kV Feeders (48 Nos') having High Revenue	62.5	Cost in Cr.	10.6	25.6	25.6	0.6	0.0
			No. of Consumer Meter	28222	68064	68064	1659	0
2	DTR Metering upto and including 63 kVA							
2.1	Installation of DTR Meter on 11kV Feeders (48 Nos') having High Revenue	2.62	Cost in Cr.	1.0	1.6	0.0	0.0	0.0
			No. of DT Meter	809	1214	0	0	0
2.2	Installation of DTR Meter Remaining >= 63 KVA	1.99	Cost in Cr.	0.8	1.2	0.0	0.0	0.0
			No. of DT Meter	480	720	0	0	0
3	AT&C Loss Reduction in 11 kV feeders							
3.1	Installation of DTR Meter on 11kV Feeders (41 Nos') having AT&C loss >50%	1.63	Cost in Cr.	0.3	0.4	0.5	0.3	0.2
			No. of DT Meter	215	316	353	227	151
3.2	Installation of smart meters of consumes on 11kV Feeders (41 Nos') having AT&C loss >50%	19.9	Cost in Cr.	3.4	5.0	5.6	3.6	2.4
			No. of DT Meter	9007	13245	14835	9537	6357
3.2	Conversion of LT Bare to AB Cable on high loss DTs across TPNODL	235.02	Cost in Cr.	40.0	58.8	65.8	42.3	28.2
			LT Bare to AB(Ckm)	473	695	779	501	268
Total Cost in Cr.		323.66		56.08	92.53	97.46	46.81	30.79



III) Proposed Capital Investment Scheme

The scheme includes installation of 11kV HT metering, DTR metering, smart consumer metering, replacement of tamper-prone service cable, and conversion of LT Bare Conductors to LT AB Cables, resulting in creation/improvement of fixed assets with useful life extending over several years.

Since, the proposed scheme involve creation of new infrastructures for strengthening of distribution network assets with long-term technical, operational, and financial benefits to the utility, the expenditure is justified to be covered under CAPEX investment.

IV) Technical Justification

Presently at several 11kV feeders there is high AT&C losses due to incomplete metering infrastructure, weak energy accounting, and theft-prone LT distribution systems. Installation of 11kV HT meters at feeder branches will enable branch-wise monitoring and energy auditing, thereby improving visibility of energy flow and facilitating identification of abnormal/ high loss pockets. The energy recorded at these HT metering points can be audited against downstream connected DTRs for effective monitoring and corrective action.

Strengthening DTR metering from 25kVA up to 63kVA capacity is essential for transformer-wise energy accounting, technical loss assessment, monitoring transformer loading, and identification of theft-prone and high-loss areas. It will also support data-driven planning and targeted network strengthening measures.

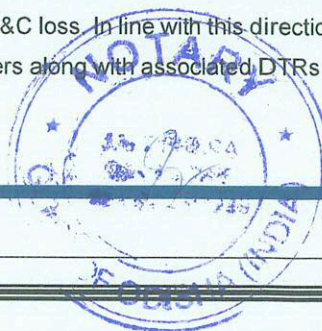
Replacement of tamper prone service will help avoid possibilities of theft & pilferage from the joints. Further, Conversion of LT bare conductors to LT AB cables will reduce hooking and pilferage, improve public safety, minimize technical losses, and enhance reliability of power supply in theft-prone areas.

Further, Complete consumer metering through installation of smart meters will improve billing accuracy, enable real-time consumption monitoring, and facilitate theft detection and remote monitoring.

The integrated implementation of these measures will strengthen energy accounting from feeder to consumer level and support sustainable reduction of technical and commercial losses.

a) Complete metering of 2-3 Nos. of 11kV feeders & associated DTRs and Consumers in each Division

In Tariff Order for FY'27, Hon'ble Commission has directed TPNODL to complete metering of at least 2 numbers of 11kV feeders in each division along with associated DTRs and consumers by the end of FY 2026-27 to assess actual technical loss and AT&C loss. In line with this direction TPNODL has identified 41 numbers of high loss making 11kV feeders along with associated DTRs and consumers for implementation of this activity.



Additional CAPEX 26-27 To Compliance Direction of the Commission (RST Order FY 2026-27)

TPNODL has already completed metering of all 33kV and 11kV feeders emanating from source substations (GSS/ PSS). Approval for installation of DT metering for 25 kVA and 63 kVA DTRs is covered under this proposal for DTR metering.

b) DTR Metering from 25 kVA up to 63 kVA

DTR metering is essential to strengthen transformer-wise energy audit, improve technical loss assessment, identify loss-prone / theft-prone areas, monitor transformer loading, and support targeted network improvement measures. It will also enhance billing efficiency, improve reliability, and enable compliance with regulatory requirements.

DTR Metering Status (As on 31-03-2026)		
DTR Rating	Total Nos. of DTR	Metered DTR
≥ 10 kVA	87,572	15,466

c) AT&C Loss Reduction in 11kV feeders

As per directive of Hon'ble OERC TPNODL has identified 41 No's 11kV feeders where AT&C loss is very high & same need to bring down with following activities.

- i. **Installation of DTR Meter on 11kV Feeders (41 No's):** A total of 2,302 DTRs are installed on these feeders, out of which energy meters have already been installed for 1,040 DTRs of 100 kVA and above capacity. For the remaining DTRs installation of energy meters is proposed to enable better monitoring and identification of DTR-wise AT&C losses. Since the selected 11kV feeders have high AT&C losses, strengthening transformer-wise energy accounting is essential to identify high-loss pockets, detect pilferage or abnormal consumption, and implement focused loss-reduction measures. This initiative will improve feeder performance, enhance billing efficiency, and support compliance with regulatory directives. The cost of DTR metering has already been considered under the DTR metering component of this proposal.

Associate Benefits of DT Metering:

- **Energy Audit:** Remote meter reading ensures timely and accurate audit report generation, enabling proactive corrective actions.
- **Enhanced Reliability:** Real-time outage alerts improve fault resolution speed, strengthening SAIFI/SAIDI indices and service benchmarking.
- **Fault Resolution:** Remote diagnostics accelerate identification and restoration of supply interruptions, while improved GIS integration enhances network visibility.
- **Strategic Planning Enablement:** Granular consumption data supports demand forecasting, infrastructure optimization, and CAPEX prioritization.
- **Increase Operational Efficiency:** Smart meter data enables early detection of unbalanced load conditions, allowing timely corrective action before transformer damage occurs. Smart meters

Additional CAPEX 26-27 To Compliance Direction of the Commission (RST Order FY 2026-27)

provide granular data to implement demand response programs, reducing stress on transformers during peak hours.

- **Predictive Maintenance:** Continuous monitoring of transformer health indicators enables proactive maintenance scheduling, reducing downtime and extending asset life.
- i. **Installation of smart meters of consumes on 11kV Feeders (41 Nos):** A total of 52,981 consumers are identified in the 41 numbers of 11kV feeders having high AT&C loss that are to be considered for installation of smart meter. To achieve complete consumer metering on these feeders and strengthen energy accounting, these consumers are proposed to be covered under the present scheme. This will enable accurate billing, real-time consumption monitoring, theft detection, and support targeted AT&C loss reduction measures.
- ii. **Conversion of LT Bare to AB Cable on high loss DTs across TPNODL:** The proposed conversion of LT bare conductor to AB cable in high-loss distribution transformer areas is essential to reduce technical and commercial losses, prevent power theft through illegal hooking, improve voltage profile, and enhance overall network safety and reliability. This intervention will also minimize breakdowns, reduce maintenance requirements, and support sustainable loss reduction in identified high-loss pockets.

Sr. No.	Circle	Division	Total Bare in Ckm	Approved in Capex FY 26-27	Proposed in RST
1	Balasore	BED	35.24	0	7.7
2	Balasore	CED	940.95	11.05	132
3	Balasore	BtED	1465.34	10.15	99.6
4	Balasore	JED	668.01	18.15	279.9
5	Balasore	SED	1353.52	8.4	224.5
6	Bhadrak	BNED	922.26	8.5	86.9
7	Bhadrak	BSED	1324.23	6.8	95.3
8	Baripada	BPED	1891.68	8.5	347.9
9	Baripada	RED	5295.49	9.9	184.9
10	Baripada	UED	1889.28	3.7	167.5
11	Jajpur	JRED	1215.06	8.8	135.7
12	Jajpur	JTED	1345.62	8.6	114.6
13	Jajpur	KuED	1224.74	8.95	182.3
14	Keonjhar	KED	1168.2	8.6	408.4
15	Keonjhar	JoDA	156	8.6	133.9
16	Keonjhar	AED	880.25	8.3	180
Total length in CKm				137	2781

V) Statutory / Safety Requirement

The proposed scheme is essential for compliance with regulatory directives and statutory requirements related to energy accounting, loss reduction, and consumer metering.

The investment supports:

Additional CAPEX 26-27 To Compliance Direction of the Commission (RST Order FY 2026-27)

- Compliance with directives of the Electricity Regulatory Commission regarding for AT&C loss reduction and energy auditing under under **Retail Supply Tariff (RST) Order for FY'26-27**.
- Achievement of complete feeder, DTR, and consumer metering with smart meter, as per distribution sector reforms and utility standards.
- Strengthening of energy accounting and audit mechanisms required under applicable regulatory provisions.
- Improvement of public safety through replacement of LT bare conductors with XLPE insulated LT AB cables.
- Enhanced monitoring and control of unauthorized consumption and electricity theft.

The scheme also supports safe and reliable operation of the distribution network by improving monitoring capability and reducing overloading and unsafe LT practices.

VI) Cost Assessment /Cost Breakup.

Below is the detailed Estimated Cost Summary for completion of the proposed scope of work:

Sl. No.	Direction of the Commission (RST Order FY 2026-27)	Unit	Qty.	Amount (₹ in Cr.)
<u>AT&C Loss Reduction and Network Metering</u>				
1.1	Complete metering of 2-3 Nos. of 11 kV feeders & associated DTRs and Consumers in each Division (at critical branch in 56 No's 11kV feeders)	No's	166009	62.5
1.2	DTR Metering up to and including 63kVA with Backend Infrastructure	No's	57,466	26.14
1.3	LT Bare to AB Cable for AT&C Loss Reduction in 11kV feeders	Ckm	2781	235.02
Cost under AT&C Loss Reduction (in Cr.)				323.66

Please refer to **Annexure – 3** for Locations and **Annexure – 4** for details of BoQ for the above cost estimate covering the scope of work.

Note for cost estimate reference:

- All rate considered as per Cost Data Book approved by Energy department (GoO), Dt-05/05/2026.
- For items which are not covered under approved CDB, Material Supply, Civil and erection rate have been considered as per latest Rate Contract after competitive bidding or based on Budgetary Quotation from OEM's.

VII) Cost Benefit Analysis (Output and Outcome)

Implementation of the proposed scheme is expected to provide significant operational, technical & commercial benefits to the utility, including: -

- Reduction in AT&C losses through improved energy accounting and theft control.
- Improved billing efficiency and revenue realization through complete consumer metering.



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- Reduction in pilferage and unauthorized consumption through LT AB cable conversion and smart metering.
- Enhanced feeder-wise and transformer-wise monitoring and energy auditing.
- Improved system reliability, power quality, and transformer loading assessment.
- Better preventive maintenance planning and reduced network failures.
- Improved consumer service through accurate billing and real-time monitoring.
- Strengthened regulatory compliance and utility performance indicators.
- Increase in billed energy and collection efficiency with reduction in unaccounted energy.
- Reduction in maintenance expenditure related to LT bare conductor failures and theft damage.
- Long-term operational savings through improved monitoring and reduced field intervention.

These proposals will meet the Regulatory directives to reduce the high AT&C loss as per **table -40 of Retail Supply Tariff (RST) Order for FY'26-27**.

Table-40

11 kV feeders with technical loss level	Technical loss level reduction by end of the FY 2026-27
>80%	By 50% of existing level of loss
Between 50% to 80%	By 30% of existing level of loss
Between 20% to 50%	By 20% of existing level of loss

The proposed investment is therefore economically and technically viable and is expected to generate sustainable operational and financial benefits through effective reduction of AT&C losses.

B. Protection & Safety Enhancement across the Distribution Network

1) Need of Investment

To enhance safety, reliability, and protection across the distribution network, several critical gaps have been identified in the existing overhead lines and distribution infrastructure. A large portion of the existing network presently operates through overhead lines without adequate guarding, underground crossing arrangements, or proper HT/LT protection systems, thereby posing significant risks to public safety, equipment reliability, and uninterrupted power supply.

At National Highways (NH), State Highways (SH), and other major road crossings, overhead electrical line crossings create potential safety hazards to vehicular traffic and the public. At many locations in overhead feeder lack of cradle-guard wire arrangements, increasing the risk of electrocution and accidents in the event of conductor snapping.

Additional CAPEX 26-27 To Compliance Direction of the Commission (RST Order FY 2026-27)

Presently several Distribution Substations are operating without proper HT and LT side protection systems. Damaged and bypassed safety equipments are unsafe for network and lifehood, resulting in higher risk of faults, fire hazards, equipment damage, and operational interruptions. Odisha being a lightning-prone state, provision of Lightning Arresters is also essential for protection of electrical equipment against lightning surges and transient faults.

II) Timelines of the Project and Phasing of Investment

The proposed scheme shall be implemented in a phased manner over a period of 5Years from the date of approval. The tentative prioritisation and implementation schedule is as follows:

Sl. No.	Direction of the Commission (RST Order FY 2026-27)	Amount ₹ in crore	Description	Budget breakup in 5Years (Cr.)				
				FY-27	FY-28	FY-29	FY-30	FY-31
4	Installation of Guard Wires for 33 kV & 11 kV overhead lines crossing over National & State Highway							
4.1	Installation of Cradle/ Guard wire in Overhead feeders at road crossings (33KV & 11KV)	211.41	Cost in Cr.	35.9	52.9	59.2	38.1	25.4
			No. of Cradle/ Guard	780	1148	1285	826	552
4.2	Laying of Underground cable at NH / SH and other road crossings (33KV)	3.70	Cost in Cr.	0.6	0.9	1.0	0.7	0.4
			Laying of UG cable	0.2	0.3	0.4	0.3	0.2
4.3	Laying of Underground cable at NH / SH and other road crossings (11KV)	45.88	Cost in Cr.	7.8	11.5	12.8	8.3	5.5
			Laying of UG cable	3.70	5.46	6.07	3.94	2.61
Total Cost in Cr.		261.00		44.37	65.25	73.08	46.98	31.32

Sl. No.	Direction of the Commission (RST Order FY 2026-27)	Amount ₹ in crore	Description	Budget breakup in 5Years (Cr.)				
				FY-27	FY-28	FY-29	FY-30	FY-31
5	Protection system on HV & LV side of DTRs of 25 KVA and above							
5.1	Protection system on HV & LV side of DTRs of 25 KVA and above	960.4	Cost in Cr.	103.4	180.2	307.3	240.1	129.4
			No. of DT Protection	4717	8224	14026	10958	5906
6	Protection system on HV & LV side of DTRs of 250 KVA above							
6.1	Protection system on HV Side of DTR 250KVA & above	83.9	Cost in Cr.	14.3	21.0	23.5	15.1	10.1
			No. of DT Protection	180	265	296	190	127
Total Cost in Cr.		1044.31		117.63	201.18	330.82	255.2	139.48

III) Proposed Capital Investment Scheme

The scheme includes installation of Underground Cables, cradle-guard, AB switches, DO fuses, LTDBs, Lightning Arresters, resulting in creation/improvement of fixed assets with useful life extending over several years.

Additional CAPEX 26-27 To Compliance Direction of the Commission (RST Order FY 2026-27)

Since, the proposed scheme involve creation of new infrastructures for strengthening of distribution network assets with long-term technical, operational, and financial benefits to the utility, the expenditure is justified to be covered under CAPEX investment.

IV) Technical Justification

To address these issues and strengthen safety, protection, and reliability of the distribution network., the following measures have been proposed:

- Laying of Underground (UG) Cable at NH/SH and major road crossings.
- Installation of cradle/guard wires at critical road crossings overhead feeder sections.
- Provision of HT and LT protection systems for DTRs including AB switches, DO fuses, LTDBs.
- Provision of Lightning Arresters for protection against lightning surges.

The proposed scheme will improve public safety, enhance system protection, reduce fault occurrence, improve reliability of supply, and ensure compliance with statutory safety standards and regulations.

a) Laying of Underground Cable at NH / SH and other major crossings

To enhance the safety of the public and vehicular traffic, TPNODL proposes the implementation of underground cabling at National Highways (NH), State Highways (SH) and other major crossings where electrical feeders are required to traverse these routes. This initiative aims to eliminate the safety risks associated with overhead power line crossings in high-traffic areas and ensure compliance with statutory regulations. Moreover, underground cabling will significantly improve the reliability and resilience of the power supply infrastructure, minimizing outages and maintenance challenges. This proposal aligns with TPNODL's commitment to developing a safe, reliable, and regulation-compliant power distribution network.

Laying of Underground Cable at NH/SH and other major crossings				
Sl. No.	Proposal	UOM	Qty.	Amount (Rs in Cr.)
1	33kV Underground Cable with DP	Ckm	1.40	3.70
2	11kV Underground Cable with DP	Ckm	21.77	45.88
Total			23.17	49.58

The proposed scope of work includes 3Cx400sqmm underground cable with spare, two numbers of DP structures with all accessories on either side of the Road along with switching facility through Isolator/ AB switch to provide ease of operation.

b) Installation of Cradle/ Guard wire in Overhead feeders at road crossings

The installation of cradle guards ensures that in the event of conductor snapping, the broken live conductor first makes contact with the cradle wire. This contact facilitates the completion of the electrical circuit, thereby enabling the protective relays installed at the substation to operate. As a result, the associated circuit breaker trips instantaneously, effectively mitigating the risk of electrocution or other hazards to human and animal life.

Presently, a substantial portion of the distribution network operates through overhead lines, many of which lack adequate guarding or cradle wire arrangements. This is particularly concerning in sections of the legacy network where conductor integrity has deteriorated over time, increasing the likelihood of snapping incidents. The absence of protective guarding in such areas poses a significant safety risk to the general public.

In view of the above, TPNODL proposes the installation of cradle/ guard wires at all critical road crossings and vulnerable locations within the network. This initiative aims to enhance public safety, minimize the risk of electrical accidents, and ensure full compliance with applicable electrical safety regulations and standards.

Installation of Cradle/ Guard wire in Overhead feeders at road crossings (33kV & 11kV)				
Sl. No.	Proposal	UOM	Quantity	Amount (Rs in Cr.)
1	For 33kV Feeders	Nos	252	13.27
2	For 11kV Feeders	Nos	4339	198.14
Total			4591	211.41

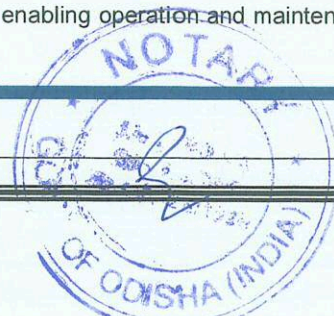
The proposed scope of work includes Cradle/ Guard arrangement, two numbers of DP structures with all accessories at each crossing.

c) Provision for DTR HV and LV protection

Currently, a significant number of DSS lack adequate protection systems on both the HT and LT sides. Essential HT-side protection devices such as AB switches and DO fuses, along with LT-side protection in the form of LT Distribution Boxes are either absent or not in proper working condition. In several locations, protection systems are found to be damaged, burnt or bypassed.

AB switches and DO fuses are critical components for isolation and protection in distribution substations. They facilitate safe disconnection of transformer sections during maintenance, fault isolation and emergency operations. However, at many DTR locations, these HT-side protection devices are outdated, manually operated or have deteriorated due to prolonged environmental exposure, thereby compromising operational reliability and equipment safety.

These protective devices play a vital role in localizing faults and enabling operation and maintenance activities without interrupting power supply to a larger area.



Additional CAPEX 26-27 To Compliance Direction of the Commission (RST Order FY 2026-27)

HT Protection (AB Switch and DO Fuse)				
Sl. No.	Proposal	UOM	Quantity	Amount (Rs in Cr.)
1	HT Protection by providing AB Switches (for DTR rating below 200kVA)	Set	41639	85.67
2	HT Protection by providing DO Fuses (for DTR rating below 200kVA)	Set	40325	30.79
3	HT Protection by providing Single Breaker RMU (for DTR 200kVA and above)	Set	1058	83.95
Total				200.41

Damaged/ burnt LT protection devices are replaced with unsafe open fuse arrangements using LT shackles or bare conductors, posing serious risks to personnel and the public. The absence of proper protection increases the likelihood of faults, fire hazards, equipment damage and electrocution.

Provision of LTDBs on the LT side of DTRs will ensure standardized protection, improve safety and enhance overall system reliability.

LT Protection (LTDB)				
Sl. No.	Proposal	UOM	Quantity	Amount (Rs in Cr.)
1	LT Protection For 25kVA DTR	Nos	28,471	400.05
2	LT Protection For 63kVA DTR	Nos	7094	99.68
3	LT Protection For 100kVA DTR	Nos	8266	150.09
4	LT Protection For 250kVA DTR	Nos	737	36.73
5	LT Protection For 500kVA DTR	Nos	137	6.83
Total			44,705	693.38

The proposed scope of work includes LTDB, earthing arrangement, LT cable for DTR, LTDB and 1st LT pole with accessories connectivity and civil work.

Lightning Arresters (LAs) are essential for protecting electrical equipment from damage caused by lightning strikes. In Odisha, where lightning occurrences are frequent, it becomes absolutely necessary to provide LA protection for electrical installations to safeguard them against such natural events. Investing in effective lightning protection measures is a proactive step toward building a safer, more reliable and disaster-resilient electrical network in the state.

Installation of LA at DSS				
Sl. No.	Proposal	UOM	Quantity	Amount (Rs in Cr.)
1	11kV Lightning Arresters at DSS	Set	33,726	150.53

Additional CAPEX 26-27 To Compliance Direction of the Commission (RST Order FY 2026-27)

Installation of LA at DSS				
Sl. No.	Proposal	UOM	Quantity	Amount (Rs in Cr.)
Total				150.53

The proposed scope of work includes LA, GI flat with earthing arrangement for connectivity.

V) Statutory / Safety Requirement

The proposed scheme is essential for compliance with statutory safety regulations and electrical safety standards applicable to distribution utilities.

The investment supports:

- Compliance with directives of the Electricity Regulatory Commission regarding for Installation of Guard Wires, DTR HT & LT Protection system under **Retail Supply Tariff (RST) Order for FY'26-27**.
- Compliance with electrical safety regulations for distribution systems.
- Reduction of electrocution risks and public safety hazards.
- Safe operation and isolation of DTRs and feeder systems.
- Protection of electrical assets against lightning and surge-related failures.
- Improvement in operational safety for maintenance personnel and the public.

The proposed works will significantly improve safety and reliability of the distribution system while ensuring compliance with regulatory and statutory requirements.

VI) Cost Assessment /Cost Breakup.

Below is the detailed Estimated Cost Summary for completion of the proposed scope of work:



Additional CAPEX 26-27 To Compliance Direction of the Commission (RST Order FY 2026-27)

Sl. No.	Direction of the Commission (RST Order FY 2026-27)	Unit	Qty.	Amount (₹ in Cr.)
<i>Protection & Safety Enhancement across the Distribution Network</i>				
2	Installation of Guard Wires and HT Underground Cable for 33kV & 11kV Overhead lines			
2.1	Installation of Cradle/ Guard in Overhead feeders at road crossings (33KV & 11KV)	No's	4591	211.41
2.2	Laying of Underground cable at NH / SH and other road crossings (33kV and 11kV)	Ckm	23.17	49.58
3	Protection system on LV side of DTRs of 25 KVA & above			
3.1	Installation of LV Protection on up to 63 KVA DTR	No's	35,565	499.73
3.2	Installation of LV Protection for 100KVA DTR	No's	8266	150.09
3.3	Installation of LV Protection DTR 200KVA & above	No's	874	43.56
4	Protection system on HV side of DTRs of 25KVA & above			
4.1	Installation of HT Protection DTR below 200KVA	Set	41,639	116.46
4.2	Installation of HT Protection DTR 200KVA & above	No's	1058	83.95
4.3	Installation of Lighting arrester at Distribution substation	No's	33726	150.53
Cost under Protection & Safety (in Cr.)				1305.31

Please refer to **Annexure – 3** for Locations and **Annexure – 4** for details of BoQ for the above cost estimate covering the scope of work.

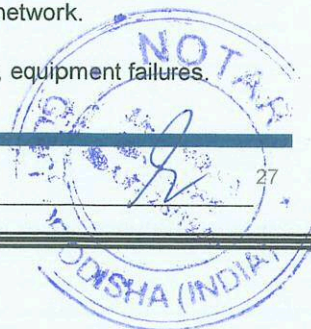
Note for cost estimate reference:

- All rate considered as per Cost Data Book approved by Energy department (GoO), Dt-05/05/2026.
- For items which are not covered under approved CDB, Material Supply, Civil and erection rate have been considered as per latest Rate Contract after competitive bidding or based on Budgetary Quotation from OEM's.

VII) Cost Benefit Analysis (Output and Outcome)

Implementation of the proposed scheme is expected to provide significant operational, technical & commercial benefits to the utility, including: -

- Enhanced public and operational safety across the distribution network.
- Reduction in electrocution risk, conductor snapping hazards, and accident-related risks.
- Improved protection and reliability of DTRs and LT distribution network.
- Reduction in outages & interruption-related losses due to faults, equipment failures.



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- Reduction in force outages to attend breakdown and maintenance activities on Distribution transformers and LT network.
- Improved network resilience and reliability through underground cabling.
- Enhanced protection against lightning and surge-related damage.
- Improved operational flexibility and ease of maintenance.
- Reduction in maintenance, breakdown, and equipment replacement expenditure.
- Long-term operational savings through strengthened protection infrastructure and reduced emergency maintenance activities.

The proposed investment is therefore technically justified and financially viable for strengthening safety, protection, and reliability of the distribution network.



C. Voltage Profile Improvement in Urban and Major City Areas**I) Need of Investment**

To identify low voltage pockets in urban and major city areas, detailed field surveys and network assessments have been carried out in various city divisions. Based on the survey findings, several Distribution Transformers and associated LT networks have been identified under poor voltage profile and unreliable power supply. The major causes observed include excessively long LT feeder lengths, overloading of DTRs and LT feeders, inadequate conductor capacity, single-phase LT and unbalanced load distribution across the network.

Long LT feeder lines are resulting in excessive voltage drop and increased technical losses, particularly affecting consumers located at the tail end of the feeders. Existing overloaded DTRs and inadequate LT infrastructure are also causing poor voltage regulation, frequent interruptions, network stress and deterioration in quality of power supply.

II) Timelines of the Project and Phasing of Investment

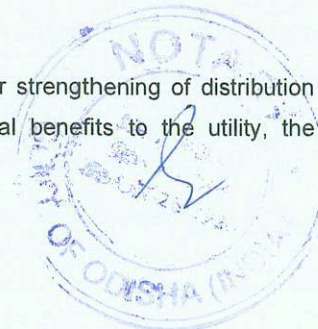
The proposed scheme shall be implemented in a phased manner over a period of 5Years from the date of approval. The tentative prioritisation and implementation schedule is as follows:

Sl. No.	Direction of the Commission (RST Order FY 2026-27)	Total Cost (Cr.)	Description	Budget Breakup in 5Years(Cr.)					Scope of Work
				FY-27	FY-28	FY-29	FY-30	FY-31	
1	Addressing Low Voltage issues in urban and major city areas.	92.0	Cost in Cr.	15.6	23.0	25.8	16.6	11.0	New DTR with HT and LT extension, DTR Aug. with LT extension.
Total Cost in Cr.		92.0		15.6	23.0	25.8	16.6	11.0	

III) Proposed Capital Investment Scheme

The scheme includes installation of new DTR, DTR Augmentation, New HT and LT network extension, and conversion of 1Ph LT network to 3Ph LT network, resulting in creation/improvement of fixed assets with useful life extending over several years.

Since, the proposed scheme involve creation of new infrastructures for strengthening of distribution network assets with long-term technical, operational, and financial benefits to the utility, the expenditure is justified to be covered under CAPEX investment.



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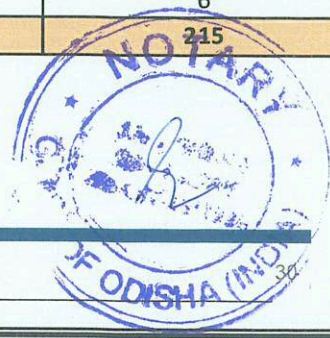
IV) Technical Justification

To address present network deficiency like low voltage issues, overloading of LT feeders & DTRs, and poor quality of supply in urban and city areas it is required to upgrade existing network and addition of network to meet load growth to provide quality power supply.

The following measures have been identified to mitigate low voltage issues and provide reliable & quality power supply to end consumers:

- Addition of new LT feeders to reduce existing feeder lengths.
- Upgradation of existing LT feeder networks with higher capacity LT AB Cables.
- Augmentation of overloaded DTRs with higher capacity transformers along with new LT feeders.
- Installation of new DTRs with associated HT and LT network for load bifurcation of existing DTRs.

Scope of Work Proposed for Mitigation of Low Voltage DSS Location in District HQ						
Sr. No.	Circle	Division	Scope of Work under Proposed Additional DTR			Scope of Work under Proposed Augmentation DTR
			Proposed New DTR	HT Requirement in Ckm	LT Requirement in Ckm	Proposed Augmentated DTR
1	Balasore	BED	15	4.5	3.8	20
2	Balasore	CED	12	3.6	3.0	12
3	Balasore	BtED	14	4.2	3.5	8
4	Balasore	JED	14	4.2	3.5	13
5	Balasore	SED	15	4.5	3.8	9
6	Bhadrak	BNED	15	4.5	3.8	22
7	Bhadrak	BSED	12	3.6	3.0	4
8	Baripada	BPED	16	4.8	4.0	24
9	Baripada	RED	11	3.3	2.8	5
10	Baripada	UED	16	4.8	4.0	7
11	Jajpur	JRED	13	3.9	3.3	22
12	Jajpur	JTED	12	3.6	3.0	11
13	Jajpur	KuED	16	4.8	4.0	30
14	Keonjhar	KED	17	5.1	4.3	6
15	Keonjhar	JoDA	14	4.2	3.5	16
16	Keonjhar	AED	13	3.9	3.3	6
Total			225	67.5	56.2	215



Additional CAPEX 26-27 To Compliance Direction of the Commission (RST Order FY 2026-27)**a. Augmentation of existing DTR's with higher capacity:**

Augmentation of overloaded Distribution Transformers with higher capacity will relieve stress on the existing system and improve voltage levels. Additional LT feeders' proposal for new DTR, will enable better load distribution, prevent overloading, reduce network stress and enhance transformer life, ensuring reliable power supply to consumers.

Augmentation of DTR				
Sl. No.	Proposal	UOM	Quantity	Amount (Rs in Cr.)
1	Augmentation of lower size DTR with new 250kVA DTR	Nos	175	37.76
2	Augmentation of lower size DTR with new 500kVA DTR	Nos	40	12.40
Total			215	50.1

b. Addition of new DTR's along with associated HT and LT network, to bifurcate load of existing DT

Installation of new DTRs along with associated HT and LT network infrastructure extension will facilitate effective load bifurcation of existing overloaded transformers. This will reduce loading on individual DTRs, improve voltage profile across the network and minimize technical losses. It also ensures better service reliability and flexibility in network operation.

Installation of New/ Additional DTR				
Sl. No.	Proposal	UOM	Quantity	Amount (Rs in Cr.)
1	Installation of new 100kVA DTR	Nos	225	19.07
Total (Cost in Cr.)			225	19.07

HT and LT Network Extension				
Sl. No.	Proposal	UOM	Quantity	Amount (Rs in Cr.)
1	Extension of 11kV HT network	Ckm	67.5	16.29
2	Extension of new LT network	Ckm	56.3	6.55
Total (Cost in Cr.)				22.84

V) Statutory / Safety Requirement

The proposed scheme is essential for maintaining statutory voltage limits and improving safety and reliability of the distribution network.

The investment supports:

Additional CAPEX 26-27 To Compliance Direction of the Commission (RST Order FY 2026-27)

- Compliance with directives of the Electricity Regulatory Commission regarding for addressing Low Voltage issues in urban and major city areas under **Retail Supply Tariff (RST) Order for FY'26-27**.
- Compliance with regulatory standards related to voltage profile and quality of supply.
- Reduction of unsafe and overloaded DT conditions.
- Reduction in conductor snapping, leakage, and electrical hazards.
- Reliable and balanced three-phase power supply in urban and high-density load areas.

The scheme will help improve system reliability and ensure safe and efficient operation of the LT distribution network.

VI) Cost Assessment /Cost Breakup.

Below is the detailed Estimated Cost Summary for completion of the proposed scope of work:

Sl. No.	Direction of the Commission (RST Order FY 2026-27)	Unit	Qty.	Amount (₹ in Cr.)
<u>Addressing Low Voltage issues in urban and major city areas</u>				
1	Augmentation of existing DTR/ Installation of New DTR along with associated lines near to load centre	No's	440	92.0
Cost under Voltage Profile improvement (in Cr.)				92.0

Please refer to **Annexure – 3** for Locations and **Annexure – 4** for details of BoQ for the above cost estimate covering the scope of work.

Note for cost estimate reference:

- i) All rate considered as per Cost Data Book approved by Energy department (GoO), Dt- 05/05/2026.
- ii) For items which are not covered under approved CDB, Material Supply, Civil and erection rate have been considered as per latest Rate Contract after competitive bidding or based on Budgetary Quotation from OEM's.

VII) Cost Benefit Analysis (Output and Outcome)

Implementation of the proposed scheme is expected to provide significant operational, technical & commercial benefits to the utility and consumer, including: -

- Enhanced reliability and power quality in the LT distribution network through voltage profile improvement.

Additional CAPEX 26-27 To Compliance Direction of the Commission (RST Order FY 2026-27)

- Minimised in DTR and LT feeder overloading, leading to reduction in network breakdowns and maintenance and prepare network to meet future load growth.
- Enhanced safety through LT AB Cables and strengthening of old & aged network.
- Reduction in technical losses through optimized feeder length and higher capacity conductors.
- Improved consumer service through stable and reliable power supply.
- Increased asset life of DTRs and LT network components.

The proposed investment is therefore technically justified and financially viable for sustainable improvement of voltage profile and strengthening of the urban distribution network.



4. Conclusion

Under the proposed scheme, an amount of ₹ 1720.9 Cr. spread over 5 years is hereby submitted for the kind consideration and approval of the Odisha Electricity Regulatory Commission. The Detailed Project Report (DPR) has been prepared with due emphasis on the critical need for implementing comprehensive safety measures to mitigate risks and hazards in compliance with applicable regulatory standards.

The DPR aims to safeguard human life and critical assets, enhance operational efficiency, and promote a strong safety culture across the network. The implementation of the proposed works is expected to improve voltage profile, strengthen system reliability, reduce risks and ensure reliable and quality power supply, thereby contributing to the development of a safe, resilient and efficient distribution network.



Annexure 2- Time Frame of the Expenditure

Sl. No.	Direction of the Commission (RST Order FY 2026-27)	Amount ₹ in crore	Description	Budget breakup in 5 Years (Cr.)				
				FY-27	FY-28	FY-29	FY-30	FY-31
1	Complete metering of 2-3 Nos. of 11 kV feeders & associated DTRs and Consumers in each Division							
1.1	Installation of smart meters of consumes on 11kV Feeders (48 Nos') having High Revenue	62.5	Cost in Cr. No. of Consumer Meter	10.6 28222	25.6 68064	25.6 68064	0.6 1659	0.0 0
2	DTR Metering upto and including 63 kVA							
2.1	Installation of DTR Meter on 11kV Feeders (48 Nos') having High Revenue	2.62	Cost in Cr. No. of DT Meter	1.0 809	1.6 1214	0.0 0	0.0 0	0.0 0
2.2	Installation of DTR Meter Remaining >=63 KVA	1.99	Cost in Cr. No. of DT Meter	0.8 480	1.2 720	0.0 0	0.0 0	0.0 0
3	AT&C Loss Reduction in 11 kV feeders							
3.1	Installation of DTR Meter on 11kV Feeders (41 Nos') having AT&C loss >50%	1.63	Cost in Cr. No. of DT Meter	0.3 215	0.4 316	0.5 353	0.3 227	0.2 151
3.2	Installation of smart meters of consumes on 11kV Feeders (41 Nos') having AT&C loss >50%	19.9	Cost in Cr. No. of DT Meter	3.4 9007	5.0 13245	5.6 14835	3.6 9537	2.4 6357
3.2	Conversion of LT Bare to AB Cable on high loss DTs across TPNODL	235.02	Cost in Cr. LT Bare to AB(Ckm)	40.0 473	58.8 695	65.8 779	42.3 501	28.2 268
4	Installation of Guard Wires for 33 kV & 11 kV overhead lines crossing over National & State Highway							
4.1	Installation of Cradle/ Guard wire in Overhead feeders at road crossings (33KV & 11KV)	211.34	Cost in Cr. No. of Cradle/ Guard	35.9 780	52.8 1148	59.2 1285	38.0 826	25.4 552

Additional CAPEX 26-27 To Compliance Direction of the Commission (RST Order FY 2026-27)

Sl. No.	Direction of the Commission (RST Order FY 2026-27)	Amount ₹ in crore	Description	Budget breakup in 5Years (Cr.)				
				FY-27	FY-28	FY-29	FY-30	FY-31
4.2	Laying of Underground cable at NH / SH and other road crossings (33KV)	3.70	Cost in Cr.	0.6	0.9	1.0	0.7	0.4
			Laying of UG cable	0.2	0.3	0.4	0.3	0.2
4.3	Laying of Underground cable at NH / SH and other road crossings (11KV)	45.88	Cost in Cr.	7.8	11.5	12.8	8.3	5.5
			Laying of UG cable	3.70	5.46	6.07	3.94	2.61
5	Protection system on HV & LV side of DTRs of 25 KVA and above							
5.1	Protection system on HV & LV side of DTRs of 25 KVA and above	960.4	Cost in Cr.	103.4	180.2	307.3	240.1	129.4
			No. of DT Protection	4717	8224	14026	10958	5906
6	Protection system on HV & LV side of DTRs of 250 KVA above							
6.1	Protection system on HV Side of DTR 250KVA & above	83.9	Cost in Cr.	14.3	21.0	23.5	15.1	10.1
			No. of DT Protection	180	265	296	190	127
7	Timeline for addressing Low Voltage issues in urban and major city areas							
7.1	Augmentation of overloaded DTR	50.1	Cost in Cr.	8.5	12.5	14.0	9.0	6.0
			No. of DT Augmented	37	54	60	39	25
7.2	Installation of New DTR along with associated lines at load centre	41.9	Cost in Cr.	7.1	10.5	11.7	7.5	5.0
			No. of New DT Installation	38	56	63	41	27
Total Cost in Cr.		1720.90		233.7	381.9	527.1	365.5	212.6



Annexure 4- Bill of Quantity



TPNODL

Installation of Meter for DTR along with accessories							
Sr No	Particulars	Units	Single Phase	Three Phase	LT CT Meter	HT CT Meter	HT CT Meter
			1-5 KW	> 5 KW			
1	Type of Meter		Smart	Smart	Smart	Smart	Smart
2	Meter Cost	Rs/Meter	3131	6344	6160	9505	9505
3	Meter& Box Installation cost (including Meter/Box/MU Removal Costs)	Rs/Meter	551	1601	2147	19558	22056
4	Meter Seals	Rs/Meter	18	22.7	54.48	90.8	90.8
Total cost of meter installation			3700	7968	8361	29154	31652



Installation of LTDB for 11/0.4 KV, 25kVA and 63kVA DTR alongwith accessories.

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS					
2	GI Channel, angle & flat of different size	KG	78.00	25	1,950.00
3	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
4	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	2	480.00
5	EYE hook for XLPE Aerial bunched Cable	EA	75.00	2	150.00
6	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	2	434.00
12	LT Distribution Box for 63 KVA S/S	EA	26,990.00	1	26,990.00
14	4 Cx 95 mm2 LT XLPE Cable(Armoured) - FOR 63 KVA Trf.	M	533.00	15	7,995.00
15	1.1kV, 4Core, 95sqmm, XLPE insulation armoured -Aluminium UG cable from LTDB to Pole	M	533.00	34	18,122.00
16	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	20	5,220.00
30	GI Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
31	GI Nuts & Bolts of Assorted size	KG	74.00	2	148.00
A1	Total Cost of materials				67,719.00
A2	Applicable Taxes to make it Landed Cost @18%				12,189.42
A	Total landed Cost (A=A1 + A2)				79,908.42
B	Stock, Storage & Insurance i.e 3% of A				2,397.25
C	Sub Total (A+B)				82,305.67
D	Contingency @ 3% of C				2,469.17
E	Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)				821.17
F	Transportation @ 7.5% of C				6,172.93
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,664.67
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				882.38
J	Sum of (C to I)				96,316.00
Civil and Services Works					
7	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
9	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	20	3,900.00
10	Laying of 4 Cx 95 mm2 LT XLPE Cable	M	47.87	49	2,345.71
11	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
12	SITC of Aluminium Lugs suitable for 95 sq mm cable/conductor	EA	92.06	24.000	2,209.44
13	SITC of termination kit of 1.1kV 3.5C/4C 35-120 sqmm	EA	3,840.00	2.000	7,680.00
14	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 50-95sqmm	EA	1,380.00	3.000	4,140.00
15	Earth work excavation of soil -Route Length	M			
15.i	Earth work excavation of soil	M3	716.03	0.700	501.22
15.ii	Earth work excavation of hard rock	M3	1,759.39	0.300	527.82
15.iii	Back filling with excavated soil outside and above the trench	M3	220.00	1.000	220.00
16	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.000	566.68
17	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
	Dismantling of existing LT Distribution Box upto 400A including removal of HT/LT leads, ACB/ MCCB/MCB/KIT KAT fuse,HRC fuse /bus barearth connections and unloading by crane if required. Scope of work also includes loading, transportation, unloading and staking at a proper place in safe position/site store. Transportation with adequete vehicle load/capacity shall be only paid seperately	EA	2,750.00	1.000	2,750.00
K1	Total Civil & Services				35,903.65
K2	Applicable Taxes to make it Landed Cost @18%				6,462.66
K	Total landed Cost (K=K1+ K2)				42,366.31
L	Total (J+K)				138,682.30
N	Sub-Total (L+M)				138,682.30
O	CESS 1% of N				1,386.82
P	Gross Total Material +Services (N+O)				140,069.13
R	Inspection Fee of LV Cable				375.00
T	Total Inspection Fees (Q+R+S)				375.00
U	GST @ 18% on Total Inspection Fees (T)				67.50
V	Total Inspection Fees including GST (T+U)				442.50
W	Gross Total Material, Services and Inspection Fees (P+V)				140,511.63



Installation of LTDB for 11/0.4 KV, 100kVA DTR alongwith accessories.

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS					
2	GI Channel, angle & flat of different size	KG	78.00	25	1,950.00
3	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
4	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	2	480.00
5	EYE hook for XLPE Aerial bunched Cable	EA	75.00	2	150.00
6	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	2	434.00
12	LT Distribution Box for 100 KVA S/S	EA	31,086.00	1	31,086.00
14	4 Cx 150 mm2 LT XLPE Cable(Armoured) - FOR 100 KVA Trf.	M	850.00	15	12,750.00
15	1.1kV, 4Core, 150 sqmm, XLPE insulation armoured -Aluminium UG cable from LTDB to Pole	M	850.00	46	39,100.00
16	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	20	5,220.00
30	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
31	GI Nuts & Bolts of Assorted size	KG	74.00	2	148.00
A1	Total Cost of materials				97,548.00
A2	Applicable Taxes to make it Landed Cost @18%				17,558.64
A	Total landed Cost (A=A1 + A2)				115,106.64
B	Stock, Storage & Insurance i.e 3% of A				3,453.20
C	Sub Total (A+B)				118,559.84
D	Contingency @ 3% of C				3,556.80
E	Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)				920.74
F	Transportation @ 7.5% of C				8,891.99
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,162.50
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				882.38
J	Sum of (C to I)				136,974.24
Civil and Services Works					
9	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	20	3,900.00
10	Laying of 4 Cx 150 mm2 LT XLPE Cable	M	60.00	61	3,660.00
11	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
12	SITC of Aluminium Lugs suitable for 150 sq mm cable/conductor	EA	156.50	24.000	3,756.00
13	SITC of termination kit of 1.1kV 3.5C/4C 150-240 sqmm	EA	4,920.00	2.000	9,840.00
14	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 120-185sqmm	EA	2,230.00	3.000	6,690.00
15	Earth work excavation of soil -Route Length	M			
15.i	Earth work excavation of soil	M3	716.03	0.700	501.22
15.ii	Earth work excavation of hard rock	M3	1,759.39	0.300	527.82
15.iii	Back filling with excavated soil outside and above the trench	M3	220.00	1.000	220.00
16	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.000	566.68
17	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
	Dismantling of existing LT Distribution Box upto 400A including removal of HT/LT leads, ACB/ MCCB/MCB/KIT KAT fuse,HRC fuse /bus barearth connections and unloading by crane if required. Scope of work also includes loading, transportation, unloading and staking at a proper place in safe position/site store. Transportation with adequate vehicle load/capacity shall be only paid seperately	EA	2,750.00	1.000	2,750.00
K1	Total Civil & Services				35,905.04
K2	Applicable Taxes to make it Landed Cost @18%				6,462.91
K	Total landed Cost (K=K1+ K2)				42,367.94
L	Total (J+K)				179,342.19
N	Sub-Total (L+M)				179,342.19
O	CESS 1% of N				1,793.42
P	Gross Total Material +Services (N+O)				181,135.61
R	Inspection Fee of LV Cable				375.00
T	Total Inspection Fees (Q+R+S)				375.00
U	GST @ 18% on Total Inspection Fees (T)				67.50
V	Total Inspection Fees including GST (T+U)				442.50
W	Gross Total Material, Services and Inspection Fees (P+V)				181,578.11



Installation of LTDB for 11/0.4 KV, 250kVA and 500kVA DTR alongwith accessories.

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS					
6	9 Mtr. long PSC Pole	EA	3,630.00	2	7,260.00
7	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	3	720.00
8	EYE hook for XLPE Aerial bunched Cable	EA	75.00	3	225.00
9	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	3	651.00
14	GI Channel, angle & flat of different size	KG	78.00	250	19,500.00
16	LT DISTRIBUTION BOX (GI)with for 500 kVA S/S	EA	82,666.00	1	82,666.00
17	1 Cx 630 mm2 LT XLPE Cable(Un-Armoured)	M	642.00	60.00	38,520.00
18	Supply of 1.1kV, 4Core, 150 sqmm, XLPE insulation armoured -Aluminium UG cable from LTDB to Pole	M	850.00	120.00	102,000.00
19	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	40	10,440.00
20	GI Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	3.00	3,900.00
21	GI Nuts & Bolts of Assorted size	KG	74.00	5	370.00
A1	Total Cost of materials				266,252.00
A2	Applicable Taxes to make it Landed Cost @18%				47,925.36
A	Total landed Cost (A=A1 + A2)				314,177.36
B	Stock, Storage & Insurance i.e 3% of A				9,425.32
C	Sub Total (A+B)				323,602.68
D	Contingency @ 3% of C				9,708.08
E	Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)				2,707.72
F	Transportation @ 7.5% of C				24,270.20
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				12,656.20
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,764.76
J	Sum of (C to I)				374,709.64
Civil and Services Works					
7	Construction of Earthing chamber including earthing pipe and civil works	EA	3,784.73	3	11,354.19
8	LTDB Plinth	EA	11,354.57	1	11,354.57
10	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	40	7,800.00
11	Laying of 4 Cx 150 mm2 LT XLPE Cable	M	60.00	120	7,200.00
12	Laying of 1.1kV cable from 400 to 1000sqmm	M	70.00	60	4,200.00
13	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.750	4,986.64
14	SITC of Aluminium Lugs suitable for 630 sq mm cable/conductor	EA	460.31	8.000	3,682.48
15	SITC of Aluminium Lugs suitable for 150 sq mm cable/conductor	EA	156.50	32.000	5,008.00
16	SITC of double Compression Flameproof Type Glanding for armored Cable 1C 300-1000 sqmm	EA	1,227.48	8.000	9,819.84
17	SITC of termination kit of 1.1kV 3.5C/4C 150-240 sqmm	EA	4,920.00	4.000	19,680.00
18	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 120-185sqmm	EA	2,230.00	4.000	8,920.00
19	Earth work excavation of soil -Route Length	M			
19.i	Earth work excavation of soil	M3	716.03	1.400	1,002.44
19.ii	Earth work excavation of hard rock	M3	1,759.39	0.600	1,055.63
19.iii	Back filling with excavated soil outside and above the trench	M3	220.00	2.000	440.00
21	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
	Dismantling of existing LT Distribution Box upto 400A including removal of HT/LT leads, ACB/ MCCB/MCB/KIT KAT fuse,HRC fuse /bus barearth connections and unloading by crane if required. Scope of work also includes loading, transportation, unloading and staking at a proper place in safe position/site store. Transportation with adequate vehicle load/capacity shall be only paid seperately	EA	2,750.00	1.000	2,750.00
K1	Total Civil & Services				100,253.79
K2	Applicable Taxes to make it Landed Cost @18%				18,045.68
K	Total landed Cost (K=K1+ K2)				118,299.48
L	Total (J+K)				493,009.12
N	Sub-Total (L+M)				493,009.12
O	CESS 1% of N				4,930.09
P	Gross Total Material +Services (N+O)				497,939.21
R	Inspection Fee of LV Cable				375.00
T	Total Inspection Fees (Q+R+S)				375.00
U	GST @ 18% on Total Inspection Fees (T)				67.50
V	Total Inspection Fees including GST (T+U)				442.50
W	Gross Total Material, Services and Inspection Fees (P+V)				498,381.71



Installation of LTDB for 11/0.4 KV, 1000kVA DTR alongwith accessories.

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS					
6	9 Mtr. long PSC Pole	EA	3,630.00	2	7,260.00
7	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	3	720.00
8	EYE hook for XLPE Aerial bunched Cable	EA	75.00	3	225.00
9	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	3	651.00
14	GI Channel, angle & flat of different size	KG	78.00	100	7,800.00
16	LT DISTRIBUTION BOX (GI)with for 1000 kVA S/S	EA	375,000.00	1	375,000.00
17	1 Cx 630 mm2 LT XLPE Cable(Un-Armoured)	M	642.00	120.00	77,040.00
18	Supply of 1.1kV, 4Core, 150 sqmm, XLPE insulation armoured -Aluminium UG cable from LTDB to Pole	M	850.00	117.00	99,450.00
19	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	40	10,440.00
20	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2.00	2,600.00
21	GI Nuts & Bolts of Assorted size	KG	74.00	5	370.00
A1	Total Cost of materials				581,556.00
A2	Applicable Taxes to make it Landed Cost @18%				104,680.08
A	Total landed Cost (A=A1 + A2)				686,236.08
B	Stock, Storage & Insurance i.e 3% of A				20,587.08
C	Sub Total (A+B)				706,823.16
D	Contingency @ 3% of C				21,204.69
E	Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)				9,529.37
F	Transportation @ 7.5% of C				53,011.74
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				46,764.46
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,764.76
J	Sum of (C to I)				839,098.18
Civil and Services Works					
7	Construction of Earthing chamber including earthing pipe and civil works	EA	3,784.73	2	7,569.46
8	LTDB Plinth	EA	11,354.57	1	11,354.57
10	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	40	7,800.00
11	Laying of 4 Cx 150 mm2 LT XLPE Cable	M	60.00	117	7,020.00
12	Laying of 1.1kV cable from 400 to 1000sqmm	M	70.00	120	8,400.00
13	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.750	4,986.64
14	SITC of Aluminium Lugs suitable for 630 sq mm cable/conductor	EA	460.31	8.000	3,682.48
15	SITC of Aluminium Lugs suitable for 150 sq mm cable/conductor	EA	156.50	32.000	5,008.00
16	SITC of double Compression Flameproof Type Glanding for armored Cable 1C 300-1000 sqmm	EA	1,227.48	8.000	9,819.84
17	SITC of termination kit of 1.1kV 3.5C/4C 150-240 sqmm	EA	4,920.00	4.000	19,680.00
18	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 120-185sqmm	EA	2,230.00	4.000	8,920.00
19	Earth work excavation of soil -Route Length	M			
19.i	Earth work excavation of soil	M3	716.03	1.400	1,002.44
19.ii	Earth work excavation of hard rock	M3	1,759.39	0.600	1,055.63
19.iii	Back filling with excavated soil outside and above the trench	M3	220.00	2.000	440.00
21	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
	Dismantling of existing LT Distribution Box upto 400A including removal of HT/LT leads, ACB/ MCCB/MCB/KIT KAT fuse,HRC fuse /bus barearth connections and unloading by crane if required. Scope of work also includes loading, transportation, unloading and staking at a proper place in safe position/site store. Transportation with adequete vehicle load/capacity shall be only paid seperately	EA	2,750.00	1.000	2,750.00
K1	Total Civil & Services				100,489.06
K2	Applicable Taxes to make it Landed Cost @18%				18,088.03
K	Total landed Cost (K=K1+ K2)				118,577.09
L	Total (J+K)				957,675.28
N	Sub-Total (L+M)				957,675.28
O	CESS 1% of N				9,576.75
P	Gross Total Material +Services (N+O)				967,252.03
R	Inspection Fee of LV Cable				375.00
T	Total Inspection Fees (Q+R+S)				375.00
U	GST @ 18% on Total Inspection Fees (T)				67.50
V	Total Inspection Fees including GST (T+U)				442.50
W	Gross Total Material, Services and Inspection Fees (P+V)				967,694.53



Replacement of 11 kV DO Fuse - for DTR

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS					
18	DO.Fuse(11KV.200A.3Pole)	SET	3,214.00	1	3,214.00
19	10 AMP Fuse Link	EA	40.00	3	120.00
A1	Total Cost of materials				3,334.00
A2	Applicable Taxes to make it Landed Cost @18%				600.12
A	Total landed Cost (A=A1 + A2)				3,934.12
B	Stock, Storage & Insurance i.e 3% of A				118.02
C	Sub Total (A+B)				4,052.14
D	Contingency @ 3% of C				121.56
E	Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)				81.04
F	Transportation @ 7.5% of C				303.91
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				405.21
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	Sum of (C to I)				4,963.88
Civil and Services Works					
17	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
	Dismantling of 11 kV /33KV GO/AB Switch/Isolator/DD fuse/fuse set	EA	1,200.00	1.000	1,200.00
K1	Total Civil & Services				2,200.00
K2	Applicable Taxes to make it Landed Cost @18%				396.00
K	Total landed Cost (K=K1+ K2)				2,596.00
L	Total (J+K)				7,559.88
N	Sub-Total (L+M)				7,559.88
O	CESS 1% of N				75.60
P	Gross Total Material +Services (N+O)				7,635.47
W	Gross Total Material, Services and Inspection Fees (P+V)				7,635.47



Replacement of 11 kV AB Switch - for DTR

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS					
2	GI Channel, angle & flat of different size	KG	78.00	12	936.00
17	AB Switch(11KV,200A,3pole,50Hz)	SET	9,080.00	1	9,080.00
20	WEDGE CONNECTOR FOR 55 SQMM.CONDUCTOR	EA	100.00	3	300.00
30	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	1	1,300.00
A1	Total Cost of materials				11,616.00
A2	Applicable Taxes to make it Landed Cost @18%				2,090.88
A	Total landed Cost (A=A1 + A2)				13,706.88
B	Stock, Storage & Insurance i.e 3% of A				411.21
C	Sub Total (A+B)				14,118.09
D	Contingency @ 3% of C				423.54
E	Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)				250.76
F	Transportation @ 7.5% of C				1,058.86
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,253.81
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	Sum of (C to I)				17,105.05
Civil and Services Works					
16	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.000	566.68
17	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
	Dismantling of 11 kV /33KV GO/AB Switch/Isolator/DD fuse/fuse set	EA	1,200.00	1.000	1,200.00
K1	Total Civil & Services				2,766.68
K2	Applicable Taxes to make it Landed Cost @18%				498.00
K	Total landed Cost (K=K1+ K2)				3,264.68
L	Total (J+K)				20,369.74
N	Sub-Total (L+M)				20,369.74
O	CESS 1% of N				203.70
P	Gross Total Material +Services (N+O)				20,573.43
W	Gross Total Material, Services and Inspection Fees (P+V)				20,573.43



Installation of 1WAY RMU for 11/0.4 KV, 250kVA and 500kVA DTR (AI) alongwith accessories.

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS					
1	Supply of 11kV RMU 1WAY 630A SINGLE BREAKER MOUDLE+AUXPT	EA	414,079.00	1	414,079.00
2	Supply of 11kV, 3Core, 95sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 9kA and SC rating of Armour in kA- 9kA)	M	1,014.00	15	15,210.00
3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, HT UG Cable kits	EA	1,830.00	2	3,660.00
4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, HT UG Cable kits	EA	2,060.00	2	4,120.00
5	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
14	GI Channel, angle & flat of different size	KG	78.00	75	5,850.00
20	GI Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	3.00	3,900.00
21	GI Nuts & Bolts of Assorted size	KG	74.00	5	370.00
A1	Total Cost of materials				453,069.00
A2	Applicable Taxes to make it Landed Cost @18%				81,552.42
A	Total landed Cost (A=A1 + A2)				534,621.42
B	Stock, Storage & Insurance i.e 3% of A				16,038.64
C	Sub Total (A+B)				550,660.06
D	Contingency @ 3% of C				16,519.80
E	Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)				294.13
F	Transportation @ 7.5% of C				41,299.50
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,470.63
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	Sum of (C to I)				610,244.13
Civil and Services Works					
1	Erection of 11kV RMU 1WAY 630A SINGLE BREAKER MOUDLE+AUXPT	EA	14,475.00	1	14,475.00
2	RMU Plinth	EA	26,000.00	1	26,000.00
3	Laying, Commissioning & Testing of 11kV, 3Core, 95sqmm, XLPE insulation (extruded type) UG cable by open trench method.	M	110.00	15	1,650.00
4	Erection of Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, aluminium UG cable kits	EA	2,000.00	4	8,000.00
7	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	3	11,354.19
21	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
24.1	GI chain link fencing for DSS	RM	4,167.57	18.000	75,016.30
K1	Total Civil & Services				137,495.49
K2	Applicable Taxes to make it Landed Cost @18%				24,749.19
K	Total landed Cost (K=K1+ K2)				162,244.68
L	Total (J+K)				772,488.81
N	Sub-Total (L+M)				772,488.81
O	CESS 1% of N				7,724.89
P	Gross Total Material +Services (N+O)				780,213.70
Q	Inspection Fee of Transformer (100kVA to 1000KVA)				10,500.00
S	Inspection Fee of Drawing Checking and Approval				750.00
T	Total Inspection Fees (Q+R+S)				11,250.00
U	GST @ 18% on Total Inspection Fees (T)				2,025.00
V	Total Inspection Fees including GST (T+U)				13,275.00
W	Gross Total Material, Services and Inspection Fees (P+V)				793,488.70



Installation of LA along with accessories - for DTR					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS					
2	GI Channel, angle & flat of different size	KG	78.00	168	13,104.00
24	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
25	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
30	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
31	GI Nuts & Bolts of Assorted size	KG	74.00	1	74.00
A1	Total Cost of materials				22,566.00
A2	Applicable Taxes to make it Landed Cost @18%				4,061.88
A	Total landed Cost (A=A1 + A2)				26,627.88
B	Stock, Storage & Insurance i.e 3% of A				798.84
C	Sub Total (A+B)				27,426.72
D	Contingency @ 3% of C				822.80
E	Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)				485.33
F	Transportation @ 7.5% of C				2,057.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,426.67
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	Sum of (C to I)				33,218.52
Civil and Services Works					
7	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
16	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2,000	566.68
17	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1,000	1,000.00
	Dismantling of Lightening Arrester(LA)	EA	162.12	1,000	162.12
K1	Total Civil & Services				9,298.26
K2	Applicable Taxes to make it Landed Cost @18%				1,673.69
K	Total landed Cost (K=K1+ K2)				10,971.95
L	Total (J+K)				44,190.47
N	Sub-Total (L+M)				44,190.47
O	CESS 1% of N				441.90
P	Gross Total Material +Services (N+O)				44,632.37
W	Gross Total Material, Services and Inspection Fees (P+V)				44,632.37



BoQ for 33kV 2R 3C, 400sqmm UG Cable - for U/G Crossing - 1.40						
Supply Portion						
Sl. No.	SAP Code	Description of Items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1		Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories				
b		Length of 33kV 3C, 400sqmm cable (HDD)	M	1400		
1.1	401000913	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	2800	3,165.00	88,62,000.00
1.3	401000876	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	60	11,900.00	7,14,000.00
		Sub Total (Supply Portion) (in Rs.)				95,76,000.00
Erection Portion						
Sl. No.	SAP Code	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1		Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable				
1.1	600280	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruded type) UG cable by open trench method.	M	2800	115.00	3,22,000.00
1.2	600256	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	60	2,000.00	1,20,000.00
1.3	600568	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	2800	2,970.00	83,16,000.00
		Sub Total (Erection Portion) (in Rs.)				87,58,000.00
Civil Portion						
Sl. No.	SAP Code	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1		Civil works for U/G Cable laying in Open Trench				
6	600426	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	88	1,035.17	91,094.96
8	600916	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1.4	10,470.00	14,658.00
		Sub Total (Civil Portion) (in Rs.)				1,05,752.96
A1		Sub Total (Supply Portion)				95,76,000.00
A2		Applicable Taxes to make it Landed Cost @18%				17,23,680.00
A		Total Landed Cost (A=A1 + A2)				1,12,99,680.00
B		Stock, Storage & Insurance @ 3 % of A				3,38,990.40
C		Sub Total (A+B)				1,16,38,670.40
D		Contingency @ 3 % of C				3,49,160.11
E		Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F		Transportation @ 7.5% of C				8,72,900.28
G		Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				-
H		Total (C+D+E+F+G)				1,28,60,730.79
I1		Sub Total (Erection Portion + Civil Portion)				88,63,752.96
I2		Applicable Taxes to make it Landed Cost @18%				15,95,475.53
I		Total landed Cost (I=I1+ I2)				1,04,59,228.49
J		Total Cost (H+I)				2,33,19,959.28
K		Other Overhead /(including Supervision Charges) @ 6 % of J				-
L		Total Estimated Capital Cost i.e. (J+K)				2,33,19,959.28
M		CESS 1% of L				2,33,199.59
N		Grand Total (L+M)				2,35,53,158.88
O	6000236	Inspection Fee of UG Line (HT) - Rs. 3000/ km.				3,000.00
P	6000237	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km				5,460.00
Q	6000082	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	6000062	Inspection Fee of Drawing Checking and Approval				750.00
S		Total Inspection Fees (O+P+Q+R)				9,210.00
T		GST @ 18% on Total Inspection Fees (S)				1,657.80
U		Total Inspection Fees including GST (S+T)				10,867.80
V		Gross Total Material, Services and Inspection Fees (N+U)				2,35,64,026.68



BOQ for 33 KV DP with Isolator and LA using WPB Pole - for UG Cable crossing

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	4	243,320.00
2	GI Channel,angle & flat of different size	KG	78.00	1270	99,060.00
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	6	26,658.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	2	124,712.00
13	33KV pin insulator polymer	EA	398.00	6	2,388.00
14	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	6	3,786.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	6	1,734.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	6	1,998.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	59.52	4,404.48
18	232 sq.mm AAA conductor	M	181.65	24	4,359.60
19	HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	M	812.00	24	19,488.00
20	POLYCARBONATE BIRD GUARD	EA	21.00	12	252.00
A1	Total Cost of materials				564,728.08
A2	Applicable Taxes to make it Landed Cost @18%				101,651.05
A	Total landed Cost (A=A1 + A2)				666,379.13
B	Stock, Storage & Insurance i.e 3% of A				19,991.37
C	Sub Total (A+B)				686,370.51
D	Contingency @ 3% of C				20,591.12
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)				12,545.26
F	Transportation @ 7.5% of C				51,477.79
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				14,786.56
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				33,153.20
I	Poles @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	Sum of (C to I)				818,924.44
Civil & Services					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	Laying of HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	EA	195.00	24	4,680.00
6	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
7	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1	Total Civil & Services				58,655.93

K2	Applicable Taxes to make it Landed Cost @18%	10,558.07
K	Total landed Cost (K=K1+ K2)	69,214.00
L	Total (J+K)	888,138.44
N	Sub-Total Material +Services (L+M)	888,138.44
O	CESS 1% of N	8,881.38
P	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	897,019.82



BoQ for 11kV 2R 3C, 400sqmm UG Cable - for U/G Crossing - 34.32						
Supply Portion						
Sl. No.	SAP Code	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1		Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories				
b		Length of 11kV 3C, 400sqmm cable (HDD)	M	34320		
1.1	401000484	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	68640	2,375.00	16,30,20,000.00
1.2	401000860	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	10	15,950.00	1,59,500.00
1.4	401000859	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	1056	2,900.00	30,62,400.00
		Sub Total (Supply Portion) (in Rs.)				16,62,41,900.00
Erection Portion						
Sl. No.	SAP Code	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1		Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable				
1.1	600278	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruded type) UG cable by open trench method.	M	68640	110.00	75,50,400.00
1.2	600256	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	1066	2,000.00	21,32,000.00
1.3	600568	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	68640	2,970.00	20,38,60,800.00
		Sub Total (Erection Portion) (in Rs.)				21,35,43,200.00
Civil Portion						
Sl. No.	SAP Code	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1		Civil works for U/G Cable laying in Open Trench				
6	600426	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	1056	1,035.17	10,93,139.52
8	600916	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	34.32	10,470.00	3,59,330.40
		Sub Total (Civil Portion) (in Rs.)				14,52,469.92
A1		Sub Total (Supply Portion)				16,62,41,900.00
A2		Applicable Taxes to make it Landed Cost @18%				2,99,23,542.00
A		Total Landed Cost (A=A1 + A2)				19,61,65,442.00
B		Stock, Storage & Insurance @ 3 % of A				58,84,963.26
C		Sub Total (A+B)				20,20,50,405.26
D		Contingency @ 3 % of C				60,61,512.16
E		Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F		Transportation @ 7.5% of C				1,51,53,780.39
G		Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				-
H		Total (C+D+E+F+G)				22,32,65,697.81
I1		Sub Total (Erection Portion + Civil Portion)				21,49,95,669.92
I2		Applicable Taxes to make it Landed Cost @18%				3,86,99,220.59
I		Total landed Cost (I=I1+ I2)				25,36,94,890.51
J		Total Cost (H+I)				47,69,60,588.32
K		Other Overhead /(including Supervision Charges) @ 6 % of J				-
L		Total Estimated Capital Cost i.e. (J+K)				47,69,60,588.32
M		CESS 1% of L				47,69,605.88
N		Grand Total (L+M)				48,17,30,194.20
O	6000060	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	6000061	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				7,389.00
Q	6000082	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	6000062	Inspection Fee of Drawing Checking and Approval				750.00
S		Total Inspection Fees (O+P+Q+R)				8,514.00
T		GST @ 18% on Total Inspection Fees (S)				1,532.52
U		Total Inspection Fees including GST (S+T)				10,046.52
V		Gross Total Material, Services and Inspection Fees (N+U)				48,17,40,240.72



BOQ for 11 KV DP with Isolator and LA using WPB Pole - for UG Cable crossing

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	4	205,400.00
2	GI Channel, angle & flat of different size	KG	78.00	330	25,740.00
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole)	SET	10,972.00	2	21,944.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	6	126.00
18	100 sq.mm AAA conductor	M	78.41	24	1,881.84
19	HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	M	812.00	18	14,616.00
20	GI Nut , Bolt & Washer of different sizes	KG	74.00	24.936	1,845.26
A1	Total Cost of materials				320,453.10
A2	Applicable Taxes to make it Landed Cost @18%				57,681.56
A	Total landed Cost (A=A1 + A2)				378,134.66
B	Stock, Storage & Insurance i.e 3% of A				11,344.04
C	Sub Total (A+B)				389,478.70
D	Contingency @ 3% of C				11,684.36
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)				6,736.94
F	Transportation @ 7.5% of C				29,210.90
G	rection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				12,482.16
H	pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				8,720.39
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	Sum of (C to I)				458,313.45
Civil & Services					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	Laying of HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	EA	2,100.00	18.00	37,800.00
6	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
7	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1	Total Civil & Services				89,116.39
K2	Applicable Taxes to make it Landed Cost @18%				16,040.95
K	Total landed Cost (K=K1+ K2)				105,157.34
L	Total (J+K)				563,470.79
N	Sub-Total (L+M)				563,470.79
O	CESS 1% of N				5,634.71
P	Gross Total Material +Services (N+O) for DP With AB Switch				569,105.50



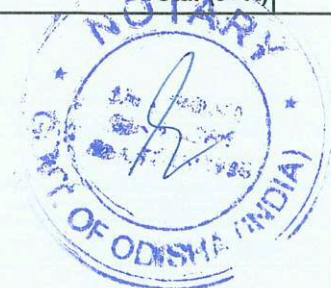
BOQ for Line Protecting Guarding on Double Pole for Road Crossing- for 33kV network

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	GI Channel, angle & flat of different size	KG	78.00	265	20,670.00
2	No-10 GI wire for lacing	KG	78.00	6.55	510.90
3	No-8 GI wire for guard wire	KG	78.00	30.72	2,396.16
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
A1	Total Cost of materials				26,177.06
A2	Applicable Taxes to make it Landed Cost @18%				4,711.87
A	Total landed Cost (A=A1 + A2)				30,888.93
B	Stock, Storage & Insurance i.e 3% of A				926.67
C	Sub Total (A+B)				31,815.60
D	Contingency @ 3% of C				954.47
E	Tools & Plants @ 2% of C (Except GI Pipe earthing)				573.11
F	Transportation @ 7.5% of C				2,386.17
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,865.56
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	Sum of (C to I)				38,594.90
Civil & Services					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Construction of Earthing chamber including earthing pipe and civil works	EA	3,784.73	2	7,569.46
K1	Total Civil & Services				7,569.46
K2	Applicable Taxes to make it Landed Cost @18%				1,362.50
K	Total landed Cost (K=K1+ K2)				8,931.96
L	Total (J+K)				47,526.87
N	Sub Total (L+M)				47,526.87
O	Total CESS @ 1% of (N)				475.27
P	Gross Total Material +Services (N+O) for 33 KV DP With Road crossing Guarding				48,002.14



BOQ for 33 KV DP using WPB Pole - for Guarding

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	135,880.00
2	GI Channel,angle & flat of different size	KG	78.00	1270	99,060.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
13	33KV pin insulator polymer	EA	398.00	6	2,388.00
14	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	6	3,786.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	6	1,734.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	6	1,998.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	59.52	4,404.48
18	232 sq.mm AAA conductor	M	181.65	20	3,633.00
20	POLYCARBONATE BIRD GUARD	EA	21.00	12	252.00
A1	Total Cost of materials				283,887.48
A2	Applicable Taxes to make it Landed Cost @18%				51,099.75
A	Total landed Cost (A=A1 + A2)				334,987.23
B	Stock, Storage & Insurance i.e 3% of A				10,049.62
C	Sub Total (A+B)				345,036.84
D	Contingency @ 3% of C				10,351.11
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)				6,192.30
F	Transportation @ 7.5% of C				25,877.76
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,257.43
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				14,446.67
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	Sum of (C to I)				410,162.11
Civil & Services					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber including earthing pipe and civil works	EA	3,784.73	4	15,138.92
6	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
7	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1	Total Civil & Services				53,975.93
K2	Applicable Taxes to make it Landed Cost @18%				9,715.67
K	Total landed Cost (K=K1+ K2)				63,691.60
L	Total (J+K)				473,853.71



N	Sub-Total Material +Services (L+M)	473,853.71
O	CESS 1% of N	4,738.54
P	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	478,592.25



BOQ for Line Protecting Guarding on Double Pole for Road Crossing- for 11kV network

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	GI Channel, angle & flat of different size	KG	78.00	235	18,330.00
2	No-10 GI wire for lacing	KG	78.00	6.55	510.90
3	No-8 GI wire for guard wire	KG	78.00	30.72	2,396.16
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
A1	Total Cost of materials				23,837.06
A2	Applicable Taxes to make it Landed Cost @18%				4,290.67
A	Total landed Cost (A=A1 + A2)				28,127.73
B	Stock, Storage & Insurance i.e 3% of A				843.83
C	Sub Total (A+B)				28,971.56
D	Contingency @ 3% of C				869.15
E	Tools & Plants @ 2% of C (Except GI Pipe earthing)				516.23
F	Transportation @ 7.5% of C				2,172.87
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,581.15
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	Sum of (C to I)				35,110.96
Civil & Services					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
K1	Total Civil & Services				7,569.46
K2	Applicable Taxes to make it Landed Cost @18%				1,362.50
K	Total landed Cost (K=K1+ K2)				8,931.96
L	Total (J+K)				44,042.92
N	Sub Total (L+M)				44,042.92
O	Total CESS @ 1% of (N)				440.43
P	Gross Total Material +Services (N+O) for 11 KV DP With Road crossing Guarding				44,483.35



BOQ for 11 KV DP using WPB Pole - for Guarding

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	1112	86,736.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	6	126.00
18	100 sq.mm AAA conductor	M	78.41	20	1,568.20
19	HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	M	812.00	0	-
20	GI Nut , Bolt & Washer of different sizes	KG	74.00	24.936	1,845.26
A1	Total Cost of materials				240,939.46
A2	Applicable Taxes to make it Landed Cost @18%				43,369.10
A	Total landed Cost (A=A1 + A2)				284,308.57
B	Stock, Storage & Insurance i.e 3% of A				8,529.26
C	Sub Total (A+B)				292,837.82
D	Contingency @ 3% of C				8,785.13
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)				5,159.41
F	Transportation @ 7.5% of C				21,962.84
G	rection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				7,009.21
H	ole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				11,778.62
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	Sum of (C to I)				347,533.04
Civil & Services					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
6	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
7	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1	Total Civil & Services				51,316.39
K2	Applicable Taxes to make it Landed Cost @18%				9,236.95
K	Total landed Cost (K=K1+ K2)				60,553.34
L	Total (J+K)				408,086.38
N	Sub-Total (L+M)				408,086.38
O	CESS 1% of N				4,080.86
P	Gross Total Material +Services (N+O) for DP With AB Switch				412,167.24

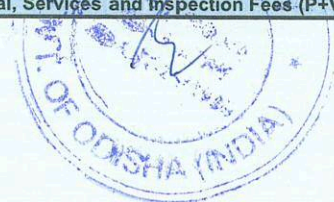


Installation of New 11/0.4 KV, 63 KVA DTR (Al) alongwith accessories.					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS					
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	470	36,660.00
3	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
4	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	2	480.00
5	EYE hook for XLPE Aerial bunched Cable	EA	75.00	2	150.00
6	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	2	434.00
7	LT Stay set Complete	SET	736.00	1	736.00
8	7/12 SWG GI stay wire, Grade -2	KG	79.00	12	948.00
9	LT stay Clamp	EA	350.00	1	350.00
10	LT stay Insulator	EA	19.00	1	19.00
11	63 KVA , 11/ 0.4 KV (AL) Transformer, BIS Energy Loss level II, Ammendment-4	EA	141,309.00	1	141,309.00
12	LT Distribution Box for 63 KVA S/S	EA	26,990.00	1	26,990.00
13	55 SQ.MM. AAAC XLPE Covered Conductor	M	101.00	50	5,050.00
14	4 Cx 95 mm2 LT XLPE Cable(Armoured) - FOR 63 KVA Trf.	M	533.00	15	7,995.00
15	1.1kV, 4Core, 95sqmm, XLPE insulation armoured -Aluminium UG cable from LTDB to Pole	M	533.00	40	21,320.00
16	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	20	5,220.00
17	AB Switch(11KV,200A,3pole,50Hz)	SET	9,080.00	1	9,080.00
18	DO.Fuse(11KV,200A,3Pole)	SET	3,214.00	1	3,214.00
19	10 AMP Fuse Link	EA	40.00	3	120.00
20	WEDGE CONNECTOR FOR 55 SQMM.CONDUCTOR	EA	100.00	3	300.00
21	POLYCARBONATE BIRD GUARD	EA	21.00	3	63.00
22	Disc insulator (B&S)70 KN polymer	EA	150.00	3	450.00
23	H W fitting (B&S)70KN(3bolted)	EA	412.00	3	1,236.00
24	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
25	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
26	HT stay set complete	SET	1,434.00	2	2,868.00
27	HT stay Clamp	EA	260.00	2	520.00
28	HT stay insulator TYPE-C	EA	87.00	2	174.00
29	7/10 SWG GI stay wire, Grade -2	KG	77.00	30	2,310.00
30	GI Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	7	9,100.00
31	GI Nuts & Bolts of Assorted size	KG	74.00	25	1,850.00
32	GI Barbed wire/Anticlimbing device	KG	74.00	6	444.00
33	Danger plate 11kv	EA	180.00	2	360.00
33	SMART LTCT ENERGY METER for DTR Metering	EA	4,717.00	1	4,717.00
Total Cost of materials					352,555.00
A1	Applicable Taxes to make it Landed Cost @18%				63,459.90
A2	Total landed Cost (A=A1 + A2)				416,014.90
B	Stock, Storage & Insurance i.e 3% of A				12,480.45
C	Sub Total (A+B)				428,495.35
D	Contingency @ 3% of C				12,854.86
E	Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)				7,316.59
F	Transportation @ 7.5% of C				32,137.15
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				12,091.95
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				11,957.83
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				882.38
J	Sum of (C to I)				505,736.11
Civil and Services Works					
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.226	1,502.64
3	PCC ratio 1:3:6(M-10 Grade) For DSS Area	M3	5,247.48	1.745	9,156.85
4	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	1.745	5,235.00
5	Fixing of HT complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
6	Fixing of LT complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
7	Construction of Earthing chamber including earthing pipe and civil works	EA	3,784.73	7	26,493.11
8	LTDB Plinth	EA	11,354.57	1	11,354.57
9	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	20	3,900.00
10	Laying of 4 Cx 95 mm2 LT XLPE Cable	M	47.87	55	2,632.94
11	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
12	SITC of Aluminium Lugs suitable for 95 sq mm cable/conductor	EA	92.06	24,000	2,209.44
13	SITC of termination kit of 1.1kV 3.5C/4C 35-120 sqmm	EA	3,840.00	2,000	7,680.00
14	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 50-95sqmm	EA	1,380.00	3,000	4,140.00
15	Earth work excavation of soil -Route Length	M			
15.i	Earth work excavation of soil	M3	716.03	0.700	501.22
15.ii	Earth work excavation of hard rock	M3	1,759.39	0.300	527.82
15.iii	Back filling with excavated soil outside and above the trench	M3	220.00	1,000	220.00
16	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2,000	566.68
17	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1,000	1,000.00
18	SITC of DCP Extinguisher (6KG)	EA	4,500.00	1,000	4,500.00
19	SITC Display Board/Sign Board	EA	3,640.00	1,000	3,640.00
20	Fencing				
a	GI Chain link	EA			
20.1	GI chain link fencing for DSS	RM	4,167.57	18,000	75,016.30
K1	Total Civil & Services				175,658.43
K2	Applicable Taxes to make it Landed Cost @18%				31,618.52
K	Total landed Cost (K=K1+ K2)				207,276.94
L	Total (J+K)				713,013.06
N	Sub-Total (L+M)				713,013.06
O	CESS 1% of N				7,130.13
P	Gross Total Material +Services (N+O)				720,143.19
Q	Inspection Fee of Transformer (upto 100 KVA)				7,500.00
R	Inspection Fee of LV Cable				375.00
S	Inspection Fee of Drawing Checking and Approval				750.00
T	Total Inspection Fees (Q+R+S)				8,625.00
U	GST @ 18% on Total Inspection Fees (T)				1,552.50
V	Total Inspection Fees including GST (T+U)				10,177.50
W	Gross Total Material, Services and Inspection Fees (P+V)				730,320.69



Augmentation of lower size DTR with 11/0.4 KV, 63 kVA alongwith accessories.

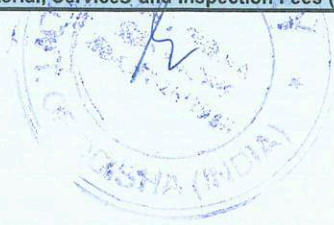
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS					
2	GI Channel, angle & flat of different size	KG	78.00	300	23,400.00
3	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
4	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	2	480.00
5	EYE hook for XLPE Aerial bunched Cable	EA	75.00	2	150.00
6	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	2	434.00
11	63 KVA , 11/ 0.4 KV (AL) Transformer, BIS Energy Loss level II, Ammendment-4	EA	141,309.00	1	141,309.00
12	LT Distribution Box for 63 KVA S/S	EA	26,990.00	1	26,990.00
13	55 SQ.MM. AAAC XLPE Covered Conductor	M	101.00	50	5,050.00
14	4 Cx 95 mm2 LT XLPE Cable(Armoured) - FOR 63 KVA Trf.	M	533.00	15	7,995.00
15	1.1kV, 4Core, 95sqmm, XLPE insulation armoured -Aluminium UG cable from LTDB to Pole	M	533.00	40	21,320.00
16	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	20	5,220.00
20	WEDGE CONNECTOR FOR 55 SQMM.CONDUCTOR	EA	100.00	3	300.00
21	POLYCARBONATE BIRD GUARD	EA	21.00	3	63.00
24	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
25	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
30	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
31	GI Nuts & Bolts of Assorted size	KG	74.00	5	370.00
33	Danger plate 11kv	EA	180.00	2	360.00
A1	Total Cost of materials				249,059.00
A2	Applicable Taxes to make it Landed Cost @18%				44,830.62
A	Total landed Cost (A=A1 + A2)				293,889.62
B	Stock, Storage & Insurance i.e 3% of A				8,816.69
C	Sub Total (A+B)				302,706.31
D	Contingency @ 3% of C				9,081.19
E	Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)				5,088.25
F	Transportation @ 7.5% of C				22,702.97
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,587.35
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				7,825.35
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				882.38
J	Sum of (C to I)				356,873.80
Civil and Services Works					
4	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	1.745	5,235.00
7	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
8	LTDB Plinth	EA	11,354.57	1	11,354.57
9	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	20	3,900.00
10	Laying of 4 Cx 95 mm2 LT XLPE Cable	M	47.87	55	2,632.94
11	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
12	SITC of Aluminium Lugs suitable for 95 sq mm cable/conductor	EA	92.06	24.000	2,209.44
13	SITC of termination kit of 1.1kV 3.5C/4C 35-120 sqmm	EA	3,840.00	2.000	7,680.00
14	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 50-95sqmm	EA	1,380.00	3.000	4,140.00
15	Earth work excavation of soil -Route Length	M			
15.i	Earth work excavation of soil	M3	716.03	0.700	501.22
15.ii	Earth work excavation of hard rock	M3	1,759.39	0.300	527.82
15.iii	Back filling with excavated soil outside and above the trench	M3	220.00	1.000	220.00
16	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.000	566.68
17	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
18	SITC of DCP Extinguisher (6KG)	EA	4,500.00	1.000	4,500.00
19	SITC Display Board/Sign Board	EA	3,640.00	1.000	3,640.00
	Dismantling of existing 11/0.4kV, 33/0.4KV, Three Phase Distribution Transformer 25KVA including removal of HT/LT leads, earth connections and unloading by crane if required.	EA	1,534.35	1.000	1,534.35
K1	Total Civil & Services				67,274.26
K2	Applicable Taxes to make it Landed Cost @18%				12,109.37
K	Total landed Cost (K=K1+ K2)				79,383.63
L	Total (J+K)				436,257.43
N	Sub-Total (L+M)				436,257.43
O	CESS 1% of N				4,362.57
P	Gross Total Material +Services (N+O)				440,620.00
Q	Inspection Fee of Transformer (upto 100 KVA)				7,500.00
R	Inspection Fee of LV Cable				375.00
S	Inspection Fee of Drawing Checking and Approval				750.00
T	Total Inspection Fees (Q+R+S)				8,625.00
U	GST @ 18% on Total Inspection Fees (T)				1,552.50
V	Total Inspection Fees including GST (T+U)				10,177.50
W	Gross Total Material, Services and Inspection Fees (P+V)				450,797.50



Installation of New 11/0.4 KV, 100 KVA DTR (A) alongwith accessories.					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS					
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	533.146	41,585.39
3	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
4	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	2	480.00
5	EYE hook for XLPE Aerial bunched Cable	EA	75.00	2	150.00
6	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	2	434.00
7	LT Stay set Complete	SET	736.00	1	736.00
8	7/12 SWG GI stay wire, Grade -2	KG	79.00	12	948.00
9	LT stay Clamp	EA	350.00	1	350.00
10	LT Stay insulator	EA	19.00	1	19.00
11	100 KVA , 11/ 0.4 KV (AL) Transformer, BIS Energy Loss level II, Ammendment-4	EA	189,025.00	1	189,025.00
12	LT Distribution Box for 100 KVA S/S	EA	31,086.00	1	31,086.00
13	55 SQ.MM. AAAC XLPE Covered Conductor	M	101.00	50	5,050.00
14	4 Cx 150 mm2 LT XLPE Cable(Armoured) - FOR 100 KVA Trf.	M	850.00	15	12,750.00
15	1.1kV, 4Core, 150 sqmm, XLPE insulation armoured -Aluminium UG cable from LTDB to Pole	M	850.00	40	34,000.00
16	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	20	5,220.00
17	AB Switch(11KV,200A,3pole,50Hz)	SET	9,080.00	1	9,080.00
18	DO.Fuse(11KV,200A,3Pole)	SET	3,214.00	1	3,214.00
19	10 AMP Fuse Link	EA	40.00	3	120.00
20	WEDGE CONNECTOR FOR 55 SQMM.CONDUCTOR	EA	100.00	3	300.00
21	POLYCARBONATE BIRD GUARD	EA	21.00	3	63.00
22	Disc insulator (B&S)70 KN polymer	EA	150.00	3	450.00
23	H W fitting (B&S)70KN(3bolted)	EA	412.00	3	1,236.00
24	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
25	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
26	HT stay set complete	SET	1,434.00	2	2,868.00
27	HT stay Clamp	EA	260.00	2	520.00
28	HT stay insulator TYPE-C	EA	87.00	2	174.00
29	7/10 SWG GI stay wire, Grade -2	KG	77.00	30	2,310.00
30	GI Pipe Earthing 40mm, 3 Mtr. Long	EA	1,300.00	7	9,100.00
31	GI Nuts & Bolts of Assorted size	KG	74.00	25	1,850.00
32	GI Barbed wire/Anticlimbing device	KG	74.00	6	444.00
33	Danger plate 11kv	EA	180.00	2	360.00
33	SMART LTCT ENERGY METER for DTR Metering	EA	4,717.00	1	4,717.00
A1	Total Cost of materials				426,727.39
A2	Applicable Taxes to make it Landed Cost @18%				76,810.93
A	Total landed Cost (A=A1 + A2)				503,538.32
B	Stock, Storage & Insurance i.e 3% of A				15,106.15
C	Sub Total (A+B)				518,644.47
D	Contingency @ 3% of C				15,559.33
E	Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)				8,695.76
F	Transportation @ 7.5% of C				38,898.34
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				14,991.66
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				13,054.29
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				882.38
J	Sum of (C to I)				610,726.22
Civil and Services Works					
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.226	1,502.64
3	PCC ratio 1:3:6(M-10 Grade) For DSS Area	M3	5,247.48	1.745	9,156.85
4	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	1.745	5,235.00
5	Fixing of HT complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
6	Fixing of LT complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
7	Construction of Earthing chamber including earthing pipe and civil works	EA	3,784.73	7	26,493.11
8	LTDB Plinth	EA	11,354.57	1	11,354.57
9	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	20	3,900.00
10	Laying of 4 Cx 150 mm2 LT XLPE Cable	M	60.00	55	3,300.00
11	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
12	SITC of Aluminium Lugs suitable for 150 sq mm cable/conductor	EA	156.50	24.000	3,756.00
13	SITC of termination kit of 1.1kV 3.5C/4C 150-240 sqmm	EA	4,920.00	2.000	9,840.00
14	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 120-185sqmm	EA	2,230.00	3.000	6,690.00
15	Earth work excavation of soil -Route Length	M			
15.i	Earth work excavation of soil	M3	716.03	2.100	1,503.66
15.ii	Earth work excavation of hard rock	M3	1,759.39	0.900	1,583.45
15.iii	Back filling with excavated soil outside and above the trench	M3	220.00	3.000	660.00
16	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.000	566.68
17	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
18	SITC of DCP Extinguisher (6KG)	EA	4,500.00	1.000	4,500.00
19	SITC Display Board/Sign Board	EA	3,640.00	1.000	3,640.00
20	Fencing				
a	GI Chain link	EA			
b	Boundary Wall	EA			
20.1	GI chain link fencing for DSS	RM	4,167.57	18.000	75,016.30
K1	Total Civil & Services				185,080.12
K2	Applicable Taxes to make it Landed Cost @18%				33,314.42
K	Total landed Cost (K=K1+ K2)				218,394.54
L	Total (J+K)				829,120.77
N	Sub-Total (L+M)				829,120.77
O	CESS 1% of N				8,291.21
P	Gross Total Material +Services (N+O)				837,411.97
Q	Inspection Fee of Transformer (upto 100 KVA)				7,500.00
R	Inspection Fee of LV Cable				375.00
S	Inspection Fee of Drawing Checking and Approval				750.00
T	Total Inspection Fees (Q+R+S)				8,625.00
U	GST @ 18% on Total Inspection Fees (T)				1,552.50
V	Total Inspection Fees including GST (T+U)				10,177.50
W	Gross Total Material, Services and Inspection Fees (P+V)				847,589.47

Augmentation of lower size DTR with 11/0.4 KV, 100 kVA alongwith accessories.

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS					
2	GI Channel, angle & flat of different size	KG	78.00	300	23,400.00
3	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
4	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	2	480.00
5	EYE hook for XLPE Aerial bunched Cable	EA	75.00	2	150.00
6	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	2	434.00
11	100 KVA , 11/ 0.4 KV (AL) Transformer, BIS Energy Loss level II, Ammendment-4	EA	189,025.00	1	189,025.00
12	LT Distribution Box for 100 KVA S/S	EA	31,086.00	1	31,086.00
13	55 SQ.MM. AAAC XLPE Covered Conductor	M	101.00	50	5,050.00
14	4 Cx 150 mm2 LT XLPE Cable(Armoured) - FOR 100 KVA Trf.	M	850.00	15	12,750.00
15	1.1kV, 4Core, 150 sqmm, XLPE insulation armoured -Aluminium UG cable from LTDB to Pole	M	850.00	40	34,000.00
16	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	20	5,220.00
20	WEDGE CONNECTOR FOR 55 SQMM.CONDUCTOR	EA	100.00	3	300.00
21	POLYCARBONATE BIRD GUARD	EA	21.00	3	63.00
24	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
25	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
30	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
31	GI Nuts & Bolts of Assorted size	KG	74.00	5	370.00
33	Danger plate 11kv	EA	180.00	2	360.00
A1	Total Cost of materials				318,306.00
A2	Applicable Taxes to make it Landed Cost @18%				57,295.08
A	Total landed Cost (A=A1 + A2)				375,601.08
B	Stock, Storage & Insurance i.e 3% of A				11,268.03
C	Sub Total (A+B)				386,869.11
D	Contingency @ 3% of C				11,606.07
E	Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)				6,347.69
F	Transportation @ 7.5% of C				29,015.18
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				11,487.05
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				8,323.18
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				882.38
J	Sum of (C to I)				454,530.67
Civil and Services Works					
3	PCC ratio 1:3:6(M-10 Grade) For DSS Area	M3	5,247.48	1.745	9,156.85
4	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	1.745	5,235.00
7	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
8	LTDB Plinth	EA	11,354.57	1	11,354.57
9	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	20	3,900.00
10	Laying of 4 Cx 150 mm2 LT XLPE Cable	M	60.00	55	3,300.00
11	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
12	SITC of Aluminium Lugs suitable for 150 sq mm cable/conductor	EA	156.50	24.000	3,756.00
13	SITC of termination kit of 1.1kV 3.5C/4C 150-240 sqmm	EA	4,920.00	2.000	9,840.00
14	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 120-185sqmm	EA	2,230.00	3.000	6,690.00
15	Earth work excavation of soil -Route Length	M			
15.i	Earth work excavation of soil	M3	716.03	0.700	501.22
15.ii	Earth work excavation of hard rock	M3	1,759.39	0.300	527.82
15.iii	Back filling with excavated soil outside and above the trench	M3	220.00	1.000	220.00
16	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.000	566.68
17	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
18	SITC of DCP Extinguisher (6KG)	EA	4,500.00	1.000	4,500.00
19	SITC Display Board/Sign Board	EA	3,640.00	1.000	3,640.00
	Dismantling of existing 11/0.4kV, 33/0.4KV, Three Phase Distribution Transformer 63KVA including removal of HT/LT leads, earth connections and unloading by crane if required.	EA	1,841.22	1.000	1,841.22
K1	Total Civil & Services				83,661.59
K2	Applicable Taxes to make it Landed Cost @18%				15,059.09
K	Total landed Cost (K=K1+ K2)				98,720.68
L	Total (J+K)				553,251.35
N	Sub-Total (L+M)				553,251.35
O	CESS 1% of N				5,532.51
P	Gross Total Material +Services (N+O)				558,783.87
Q	Inspection Fee of Transformer (upto 100 KVA)				7,500.00
R	Inspection Fee of LV Cable				375.00
S	Inspection Fee of Drawing Checking and Approval				750.00
T	Total Inspection Fees (Q+R+S)				8,625.00
U	GST @ 18% on Total Inspection Fees (T)				1,552.50
V	Total Inspection Fees including GST (T+U)				10,177.50
W	Gross Total Material, Services and Inspection Fees (P+V)				568,961.37



Installation of New 11/0.4 KV, 250 KVA DTR (Cu) alongwith accessories.					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS					
1	Supply of 11kV RMU 1WAY 630A SINGLE BREAKER MOUDLE+AUXPT	EA	414,079.00	1	414,079.00
2	Supply of 11kV, 3Core, 95sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 9kA and SC rating of Armour in kA- 9kA)	M	1,014.00	20	20,280.00
3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, HT UG Cable kits	EA	1,830.00	2	3,660.00
4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, HT UG Cable kits	EA	2,060.00	2	4,120.00
5	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
6	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
7	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	4	960.00
8	EYE hook for XLPE Aerial bunched Cable	EA	75.00	4	300.00
9	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	4	868.00
10	LT Stay set Complete	SET	736.00	1	736.00
11	7/12 SWG GI stay wire, Grade -2	KG	79.00	12	948.00
12	LT stay Clamp	EA	350.00	1	350.00
13	LT Stay insulator	EA	19.00	1	19.00
14	GI Channel, angle & flat of different size	KG	78.00	352.688	27,509.66
15	250 KVA , 11/ 0.4 KV (Cu) Transformer with Tap Changer BIS Energy Loss level II, Ammendment-4	EA	619,789.00	1.00	619,789.00
16	LT Distribution Box for 250 KVA S/S	EA	55,267.00	1	55,267.00
17	1 Cx 630 mm2 LT XLPE Cable(Un-Armoured)	M	642.00	60.00	38,520.00
18	Supply of 1.1kV, 4Core, 150 sqmm, XLPE insulation armoured -Aluminium UG cable from LTDB to Pole	M	850.00	102.40	87,040.00
19	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	40	10,440.00
20	Gi Pipe Earthing 40mm, 3 Mtr. Long	EA	1,300.00	9.00	11,700.00
21	GI Nuts & Bolts of Assorted size	KG	74.00	10	740.00
33	SMART LTCT ENERGY METER for DTR Metering	EA	4,717.00	1	4,717.00
A1	Total Cost of materials				1,311,552.66
A2	Applicable Taxes to make it Landed Cost @18%				236,079.48
A	Total landed Cost (A=A1 + A2)				1,547,632.14
B	Stock, Storage & Insurance i.e 3% of A				46,428.96
C	Sub Total (A+B)				1,594,061.11
D	Contingency @ 3% of C				47,821.83
E	Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)				17,493.51
F	Transportation @ 7.5% of C				119,554.58
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				37,664.58
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				11,697.21
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				882.38
J	Sum of (C to I)				1,829,175.21
Civil and Services Works					
1	Erection of 11kV RMU 1WAY 630A SINGLE BREAKER MOUDLE+AUXPT	EA	14,475.00	1	14,475.00
2	RMU Plinth	EA	26,000.00	1	26,000.00
3	Laying, Commissioning & Testing of 11kV, 3Core, 95sqmm, XLPE insulation (extruded type) UG cable by open trench method.	M	110.00	20	2,200.00
4	Erection of Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, aluminium UG cable kits	EA	2,000.00	4	8,000.00
5	PCC ratio 1:3:6(M-10 Grade) For DSS Area	M3	5,247.48	3	16,784.06
6	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	3.1985	9,595.50
7	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	9	34,062.57
8	LTDB Plinth	EA	11,354.57	1	11,354.57
9	DTR Plinth	EA	70,988.27	1	70,988.27
10	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	40	7,800.00
11	Laying of 4 Cx 150 mm2 LT XLPE Cable	M	60.00	102	6,144.00
12	Laying of 1.1kV cable from 400 to 1000sqmm	M	70.00	60	4,200.00
13	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
14	SITC of Aluminium Lugs suitable for 630 sq mm cable/conductor	EA	460.31	8,000	3,682.48
15	SITC of Aluminium Lugs suitable for 150 sq mm cable/conductor	EA	156.50	32,000	5,008.00
16	SITC of double Compression Flameproof Type Glanding for armored Cable 1C 300-1000 sqmm	EA	1,227.48	8,000	9,819.84
17	SITC of termination kit of 1.1kV 3.5C/4C 150-240 sqmm	EA	4,920.00	4,000	19,680.00
18	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 120-185sqmm	EA	2,230.00	4,000	8,920.00
19	Earth work excavation of soil -Route Length	M			
19.i	Earth work excavation of soil	M3	716.03	2,100	1,503.66
19.ii	Earth work excavation of hard rock	M3	1,759.39	0.900	1,583.45
19.iii	Back filling with excavated soil outside and above the trench	M3	220.00	3,000	660.00
21	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1,000	1,000.00
22	SITC of DCP Extinguisher (6KG)	EA	4,500.00	1,000	4,500.00
23	SITC Display Board/Sign Board	EA	3,640.00	1,000	3,640.00
24	Fencing				
a	GI Chain link	EA			
b	Boundary Wall	EA			
24.1	GI chain link fencing for DSS	RM	4,167.57	19,200	80,017.39
K1	Total Civil & Services				354,112.11
K2	Applicable Taxes to make it Landed Cost @18%				63,740.18
K	Total landed Cost (K=K1+ K2)				417,852.29
L	Total (J+K)				2,247,027.49
N	Sub-Total (L+M)				2,247,027.49
O	CESS 1% of N				22,470.27
P	Gross Total Material & Services (N+O)				2,269,497.77
Q	Inspection Fee of Transformer (100KVA to 1000KVA)				10,500.00
R	Inspection Fee of LV Cable				375.00
S	Inspection Fee of Drawing Checking and Approval				750.00
T	Total Inspection Fees (Q+R+S)				11,625.00
U	GST @ 18% on Total Inspection Fees (T)				2,092.50
V	Total Inspection Fees including GST (T+U)				13,717.50
W	Gross Total Material, Services and Inspection Fees (P+V)				2,283,215.27



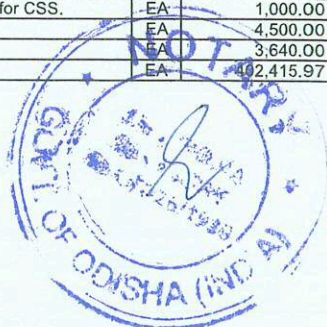
Augmentation of lower size DTR with 11/0.4 KV, 250 kVA alongwith accessories.					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS					
1	Supply of 11kV RMU 1WAY 630A SINGLE BREAKER MOUDLE+AUXPT	EA	414,079.00	1	414,079.00
2	Supply of 11kV, 3Core, 95sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 9kA and SC rating of Armour in kA- 9kA)	M	1,014.00	20	20,280.00
3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, HT UG Cable kits	EA	1,830.00	2	3,660.00
4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, HT UG Cable kits	EA	2,060.00	2	4,120.00
5	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
6	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
7	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	4	960.00
8	EYE hook for XLPE Aerial bunched Cable	EA	75.00	4	300.00
9	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	4	868.00
14	GI Channel, angle & flat of different size	KG	78.00	352,688	27,509.66
15	250 KVA , 11/ 0.4 KV (Cu) Transformer with Tap Changer BIS Energy Loss level II, Ammendment-4	EA	619,789.00	1.00	619,789.00
16	LT Distribution Box for 250 KVA S/S	EA	55,267.00	1	55,267.00
17	1 Cx 630 mm2 LT XLPE Cable(Un-Armoured)	M	642.00	60.00	38,520.00
18	Supply of 1.1kV, 4Core, 150 sqmm, XLPE insulation armoured -Aluminium UG cable from LTDB to Pole	M	850.00	106.00	90,100.00
19	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	40	10,440.00
20	GI Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	5.00	6,500.00
21	GI Nuts & Bolts of Assorted size	KG	74.00	5	370.00
A1	Total Cost of materials				1,302,272.66
A2	Applicable Taxes to make it Landed Cost @18%				234,409.08
A	Total landed Cost (A=A1 + A2)				1,536,681.74
B	Stock, Storage & Insurance i.e 3% of A				46,100.45
C	Sub Total (A+B)				1,582,782.20
D	Contingency @ 3% of C				47,483.47
E	Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)				17,369.86
F	Transportation @ 7.5% of C				118,708.66
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				37,664.58
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				11,078.94
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				882.38
J	Sum of (C to I)				1,815,970.08
Civil and Services Works					
1	Erection of 11kV RMU 1WAY 630A SINGLE BREAKER MOUDLE+AUXPT	EA	14,475.00	1	14,475.00
2	RMU Plinth	EA	26,000.00	1	26,000.00
3	Laying, Commissioning & Testing of 11kV, 3Core, 95sqmm, XLPE insulation (extruded type) UG cable by open trench method.	M	110.00	20	2,200.00
4	Erection of Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, aluminium UG cable kits	EA	2,000.00	4	8,000.00
5	PCC ratio 1:3:6(M-10 Grade) For DSS Area	M3	5,247.48	3	16,784.06
6	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	3.1985	9,595.50
7	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	5	18,923.65
8	LTDB Plinth	EA	11,354.57	1	11,354.57
9	DTR Plinth	EA	70,988.27	1	70,988.27
10	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	40	7,800.00
11	Laying of 4 Cx 150 mm2 LT XLPE Cable	M	60.00	106	6,360.00
12	Laying of 1.1kV cable from 400 to 1000sqmm	M	70.00	60	4,200.00
13	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
14	SITC of Aluminium Lugs suitable for 630 sq mm cable/conductor	EA	460.31	8,000	3,682.48
15	SITC of Aluminium Lugs suitable for 150 sq mm cable/conductor	EA	156.50	32,000	5,008.00
16	SITC of double Compression Flameproof Type Glanding for armored Cable 1C 300-1000 sqmm	EA	1,227.48	8,000	9,819.84
17	SITC of termination kit of 1.1kV 3.5C/4C 150-240 sqmm	EA	4,920.00	4,000	19,680.00
18	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 120-185sqmm	EA	2,230.00	4,000	8,920.00
19	Earth work excavation of soil -Route Length	M			
19.i	Earth work excavation of soil	M3	716.03	0.700	501.22
19.ii	Earth work excavation of hard rock	M3	1,759.39	0.300	527.82
19.iii	Back filling with excavated soil outside and above the trench	M3	220.00	1,000	220.00
21	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1,000	1,000.00
22	SITC of DCP Extinguisher (6KG)	EA	4,500.00	1,000	4,500.00
23	SITC Display Board/Sign Board	EA	3,640.00	1,000	3,640.00
	Dismantling of existing 11/0.4KV, 33/0.4KV, Three Phase Distribution Transformer 100KVA including removal of HT/LT leads, earth connections and unloading by crane if required.	EA	3,262.64	1,000	3,262.64
K1	Total Civil & Services				259,936.37
K2	Applicable Taxes to make it Landed Cost @18%				46,788.55
K	Total landed Cost (K=K1+ K2)				306,724.91
L	Total (J+K)				2,122,694.99
N	Sub-Total (L+M)				2,122,694.99
O	CESS 1% of N				21,226.95
P	Gross Total Material +Services (N+O)				2,143,921.94
Q	Inspection Fee of Transformer (100kVA to 1000KVA)				10,500.00
R	Inspection Fee of LV Cable				375.00
S	Inspection Fee of Drawing Checking and Approval				750.00
T	Total Inspection Fees (Q+R+S)				11,625.00
U	GST @ 18% on Total Inspection Fees (T)				2,092.50
V	Total Inspection Fees including GST (T+U)				13,717.50
W	Gross Total Material, Services and Inspection Fees (P+V)				2,157,639.44

Installation of New 11/0.4 KV, 500 KVA DTR (Cu) alongwith accessories.					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS					
1	Supply of 11kV RMU 1WAY 630A SINGLE BREAKER MOUDLE+AUXPT	EA	414,079.00	1	414,079.00
2	Supply of 11kV, 3Core, 95sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 9kA and SC rating of Armour in kA- 9kA)	M	1,014.00	20	20,280.00
3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, HT UG Cable kits	EA	1,830.00	2	3,660.00
4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, HT UG Cable kits	EA	2,060.00	2	4,120.00
5	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
6	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
7	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	4	960.00
8	EYE hook for XLPE Aerial bunched Cable	EA	75.00	4	300.00
9	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	4	868.00
10	LT Stay set Complete	SET	736.00	1	736.00
11	7/12 SWG GI stay wire, Grade -2	KG	79.00	12	948.00
12	LT stay Clamp	EA	350.00	1	350.00
13	LT Stay insulator	EA	19.00	1	19.00
14	GI Channel, angle & flat of different size	KG	78.00	352.688	27,509.66
15	500 KVA , 11/ 0.4 KV (Cu) Transformer with Tap Changer BIS Energy Loss level II, Ammendment-4	EA	1,225,143.00	1.00	1,225,143.00
16	LT DISTRIBUTION BOX (GI)with for 500 kVA S/S	EA	82,666.00	1	82,666.00
17	1 Cx 630 mm2 LT XLPE Cable(Un-Armoured)	M	642.00	60.00	38,520.00
18	Supply of 1.1kV, 4Core, 150 sqmm, XLPE insulation armoured -Aluminium UG cable from LTDB to Pole	M	850.00	120.00	102,000.00
19	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	40	10,440.00
20	GI Pipe Earthing 40mm, 3 Mtr. Long	EA	1,300.00	9.00	11,700.00
21	GI Nuts & Bolts of Assorted size	KG	74.00	10	740.00
33	SMART LTCT ENERGY METER for DTR Metering	EA	4,717.00	1	4,717.00
A1	Total Cost of materials				1,959,265.66
A2	Applicable Taxes to make it Landed Cost @18%				352,667.82
A	Total landed Cost (A=A1 + A2)				2,311,933.48
B	Stock, Storage & Insurance i.e 3% of A				69,358.00
C	Sub Total (A+B)				2,381,291.49
D	Contingency @ 3% of C				71,438.74
E	Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)				32,874.47
F	Transportation @ 7.5% of C				178,596.86
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				74,451.94
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				15,027.29
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				882.38
J	Sum of (C to I)				2,754,563.17
Civil and Services Works					
1	Erection of 11kV RMU 1WAY 630A SINGLE BREAKER MOUDLE+AUXPT	EA	14,475.00	1	14,475.00
2	RMU Plinth	EA	26,000.00	1	26,000.00
3	Laying, Commissioning & Testing of 11kV, 3Core, 95sqmm, XLPE insulation (extruded type) UG cable by open trench method.	M	110.00	20	2,200.00
4	Erection of Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, aluminium UG cable kits	EA	2,000.00	4	8,000.00
5	PCC ratio 1:3:6(M-10 Grade) For DSS Area	M3	5,247.48	3	16,784.06
6	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	3.1985	9,595.50
7	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	9	34,062.57
8	LTDB Plinth	EA	11,354.57	1	11,354.57
9	DTR Plinth	EA	70,988.27	1	70,988.27
10	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	40	7,800.00
11	Laying of 4 Cx 150 mm2 LT XLPE Cable	M	60.00	120	7,200.00
12	Laying of 1.1kV cable from 400 to 1000sqmm	M	70.00	60	4,200.00
13	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
14	SITC of Aluminium Lugs suitable for 630 sq mm cable/conductor	EA	460.31	8.000	3,682.48
15	SITC of Aluminium Lugs suitable for 150 sq mm cable/conductor	EA	156.50	32.000	5,008.00
16	SITC of double Compression Flameproof Type Glanding for armored Cable 1C 300-1000 sqmm	EA	1,227.48	8.000	9,819.84
17	SITC of termination kit of 1.1kV 3.5C/4C 150-240 sqmm	EA	4,920.00	4.000	19,680.00
18	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 120-185sqmm	EA	2,230.00	4.000	8,920.00
19	Earth work excavation of soil -Route Length	M			
19.i	Earth work excavation of soil	M3	716.03	2.100	1,503.66
19.ii	Earth work excavation of hard rock	M3	1,759.39	0.900	1,583.45
19.iii	Back filling with excavated soil outside and above the trench	M3	220.00	3.000	660.00
21	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
22	SITC of DCP Extinguisher (6KG)	EA	4,500.00	1.000	4,500.00
23	SITC Display Board/Sign Board	EA	3,640.00	1.000	3,640.00
24	Fencing				
a	GI Chain link	EA			
b	Boundary Wall	EA			
24.1	GI chain link fencing for DSS	RM	4,167.57	19.200	80,017.39
K1	Total Civil & Services				355,168.11
K2	Applicable Taxes to make it Landed Cost @18%				63,930.26
K	Total landed Cost (K=K1+ K2)				419,098.37
L	Total (J+K)				3,173,661.54
N	Sub-Total (L+M)				3,173,661.54
O	CESS 1% of N				31,736.62
P	Gross Total Material +Services (N+O)				3,205,398.15
Q	Inspection Fee of Transformer (100kVA to 1000KVA)				10,500.00
R	Inspection Fee of LV Cable				375.00
S	Inspection Fee of Drawing Checking and Approval				750.00
T	Total Inspection Fees (Q+R+S)				11,625.00
U	GST @ 18% on Total Inspection Fees (T)				2,092.50
V	Total Inspection Fees including GST (T+U)				13,717.50
W	Gross Total Material, Services and Inspection Fees (P+V)				3,219,115.65



Augmentation of lower size DTR with 11/0.4 KV, 500 kVA alongwith accessories.					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS					
1	Supply of 11kV RMU 1WAY 630A SINGLE BREAKER MOUDLE+AUXPT	EA	414,079.00	1	414,079.00
2	Supply of 11kV, 3Core, 95sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 9kA and SC rating of Armour in kA- 9kA)	M	1,014.00	20	20,280.00
3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, HT UG Cable kits	EA	1,830.00	2	3,660.00
4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, HT UG Cable kits	EA	2,060.00	2	4,120.00
5	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
6	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
7	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	4	960.00
8	EYE hook for XLPE Aerial bunched Cable	EA	75.00	4	300.00
9	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	4	868.00
14	GI Channel, angle & flat of different size	KG	78.00	352.688	27,509.66
15	500 KVA , 11/ 0.4 KV (Cu) Transformer with Tap Changer BIS Energy Loss level II, Ammendment-4	EA	1,225,143.00	1.00	1,225,143.00
16	LT DISTRIBUTION BOX (GI)with for 500 kVA S/S	EA	82,666.00	1	82,666.00
17	1 Cx 630 mm2 LT XLPE Cable(Un-Armoured)	M	642.00	60.00	38,520.00
18	Supply of 1.1kV, 4Core, 150 sqmm, XLPE insulation armoured -Aluminium UG cable from LTDB to Pole	M	850.00	118.00	100,300.00
19	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	40	10,440.00
20	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	5.00	6,500.00
21	GI Nuts & Bolts of Assorted size	KG	74.00	5	370.00
33	SMART LTCT ENERGY METER for DTR Metering	EA	4,717.00	1	4,717.00
A1	Total Cost of materials				1,949,942.66
A2	Applicable Taxes to make it Landed Cost @18%				350,989.68
A	Total landed Cost (A=A1 + A2)				2,300,932.34
B	Stock, Storage & Insurance i.e 3% of A				69,027.97
C	Sub Total (A+B)				2,369,960.31
D	Contingency @ 3% of C				71,098.81
E	Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)				32,865.48
F	Transportation @ 7.5% of C				177,747.02
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				74,451.94
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				14,982.32
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				882.38
J	Sum of (C to I)				2,741,988.26
Civil and Services Works					
1	Erection of 11kV RMU 1WAY 630A SINGLE BREAKER MOUDLE+AUXPT	EA	14,475.00	1	14,475.00
2	RMU Plinth	EA	26,000.00	1	26,000.00
3	Laying, Commissioning & Testing of 11kV, 3Core, 95sqmm, XLPE insulation (extruded type) UG cable by open trench method.	M	110.00	20	2,200.00
4	Erection of Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, aluminium UG cable kits	EA	2,000.00	4	8,000.00
5	PCC ratio 1:3:6(M-10 Grade) For DSS Area	M3	5,247.48	3	16,784.06
6	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	3.1985	9,595.50
7	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	5	18,923.65
8	LTDB Plinth	EA	11,354.57	1	11,354.57
9	DTR Plinth	EA	70,988.27	1	70,988.27
10	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	40	7,800.00
11	Laying of 4 Cx 150 mm2 LT XLPE Cable	M	60.00	118	7,080.00
12	Laying of 1.1kV cable from 400 to 1000sqmm	M	70.00	60	4,200.00
13	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
14	SITC of Aluminium Lugs suitable for 630 sq mm cable/conductor	EA	460.31	8.000	3,682.48
15	SITC of Aluminium Lugs suitable for 150 sq mm cable/conductor	EA	156.50	32.000	5,008.00
16	SITC of double Compression Flameproof Type Glanding for armored Cable 1C 300-1000 sqmm	EA	1,227.48	8.000	9,819.84
17	SITC of termination kit of 1.1kV 3.5C/4C 150-240 sqmm	EA	4,920.00	4.000	19,680.00
18	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 120-185sqmm	EA	2,230.00	4.000	8,920.00
19	Earth work excavation of soil -Route Length	M			
19.i	Earth work excavation of soil	M3	716.03	0.700	501.22
19.ii	Earth work excavation of hard rock	M3	1,759.39	0.300	527.82
19.iii	Back filling with excavated soil outside and above the trench	M3	220.00	1.000	220.00
21	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
22	SITC of DCP Extinguisher (6KG)	EA	4,500.00	1.000	4,500.00
23	SITC Display Board/Sign Board	EA	3,640.00	1.000	3,640.00
K1	Total Civil & Services				257,393.73
K2	Applicable Taxes to make it Landed Cost @18%				46,330.87
K	Total landed Cost (K=K1+ K2)				303,724.60
L	Total (J+K)				3,045,712.86
N	Sub-Total (L+M)				3,045,712.86
O	CESS 1% of N				30,457.13
P	Gross Total Material +Services (N+O)				3,076,169.99
Q	Inspection Fee of Transformer (100kVA to 1000KVA)				10,500.00
R	Inspection Fee of LV Cable				375.00
S	Inspection Fee of Drawing Checking and Approval				750.00
T	Total Inspection Fees (Q+R+S)				11,625.00
U	GST @ 18% on Total Inspection Fees (T)				2,092.50
V	Total Inspection Fees including GST (T+U)				13,717.50
W	Gross Total Material, Services and Inspection Fees (P+V)				3,089,887.49

Installation of New 11/0.4 KV, 1000 KVA CSS alongwith accessories.					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	1000 KVA , 11/ 0.4 KV Compact Sub-station	EA	3,732,666.00	1	3,732,666.00
2	50x6mm Flat(GI) for earthing	KG	78.00	350.00	27,300.00
3	GI Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	7.00	9,100.00
4	FRTU for RMU SCADA Automation				
a	No. of FRTU	EA			
4.1	Pre-Wired FRTU Panel with FRTU	EA	156,247.00	1.00	156,247.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	EA	95,000.00	1.00	95,000.00
4.3	Networking Accessories	EA	72.00	1.00	72.00
4.4	CMR with Mounting Base for Digital Inputs	EA	275.00	32.00	8,800.00
4.5	Interposing Relay for Digital Output	EA	275.00	16.00	4,400.00
4.6	Battery Charger	EA	17,500.00	1.00	17,500.00
4.7	Battery	EA	12,500.00	1.00	12,500.00
4.8	4G Modem cum Router	EA	24,400.00	1.00	24,400.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	M	309.00	40.00	12,360.00
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	M	299.00	40.00	11,960.00
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	M	382.00	40.00	15,280.00
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	M	185.59	20.00	3,711.80
4.13	2 C X 4 mm2 Cable for DC Power Supply	M	210.00	10.00	2,100.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	M	229.00	20.00	4,580.00
4.15	Armored CAT6 SFTP Cable	M	107.00	20.00	2,140.00
4.16	Un-Armored CAT6 SFTP Cable	M	55.00	20.00	1,100.00
4.17	Multi Function Meter	EA	14,000.00	2.00	28,000.00
33	SMART LTCT ENERGY METER for DTR Metering	EA	4,717.00	1	4,717.00
A1	Total Cost of materials				4,173,933.80
A2	Applicable Taxes to make it Landed Cost @18%				751,308.08
A	Total landed Cost (A=A1 + A2)				4,925,241.88
B	Stock, Storage & Insurance i.e 3% of A				147,757.26
C	Sub Total (A+B)				5,072,999.14
D	Contingency @ 3% of C				152,189.97
E	Tools & Plants @ 2% of C (considered for earthing items)				663.61
F	Transportation @ 7.5% of C				380,474.94
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,318.04
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	Sub Total (Supply Portion) (C to I)				5,609,645.70
Erection Portion					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Erection of 1000 KVA , 11/ 0.4 KV Compact substation	EA	51,758.74	1.00	51,758.74
2	FRTU and OFC for RMU SCADA Automation				
2.1	Services of FRTU Panel, Communication and Other Supplied System	EA	6,755.00	1.00	6,755.00
Sub Total (Erection Portion)					58,513.74
Civil Portion					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA.	3,784.73	7.00	26,493.11
2	PCC ratio 1:3:6(M-10 Grade) For CSS Area	M3	5,247.48	3.20	16,784.06
3	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	3.1985	9,595.50
4	GIS coordinate mapping, drawing preparation and submission of the same for CSS.	EA	1,000.00	1.000	1,000.00
5	SITC of DCP Extinguisher (6KG)	EA	4,500.00	1.000	4,500.00
6	SITC Display Board/Sign Board	EA	3,640.00	1.000	3,640.00
7	CSS Plinth	EA	402,415.97	1	402,415.97



8	Fencing				
a	GI Chain link	EA			
b	Boundary Wall	EA			
8.1	GI chain link fencing for DSS	RM	4,167.57	22	91,686.59
8.2	Boundary wall Fencing for DSS	RM	11,173.88	0	-
K			Sub Total (Civil Portion)		556,115.23
L1			Sub Total (Erection Portion + Civil Portion)		614,628.97
L2			Applicable Taxes to make it Landed Cost @18%		110,633.21
L			Total landed Cost (L=L1+ L2)		725,262.18
M			Total (J+L)		6,334,907.88
O			Sub-Total (L+M)		6,334,907.88
P			CESS 1% of O		63,349.08
Q			Gross Total Material +Services (O+P)		6,398,256.96
R			Inspection Fee of Transformer (100kVA to 1000kVA)		10,500.00
S			Inspection Fee of Drawing Checking and Approval		750.00
T			Total Inspection Fees (R+S)		11,250.00
U			GST @ 18% on Total Inspection Fees (T)		2,025.00
V			Total Inspection Fees including GST (T+U)		13,275.00
W			Gross Total Material, Services and Inspection Fees (Q+V)		6,411,531.96



11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -AAA Conductor - for 11kV Line Extension

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1	Total Cost of materials				102,607.51
A2	Applicable Taxes to make it Landed Cost @18%				18,469.35
A	Total landed Cost (A=A1 + A2)				121,076.86
B	Stock, Storage & Insurance i.e 3% of A				3,632.31
C	Sub Total (A+B)				124,709.17
D	Contingency @ 3% of C				3,741.28
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)				2,288.25
F	Transportation @ 7.5% of C				9,353.19
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,432.02
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	Sum of (C to I)				148,028.50
Civil & Services					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1	Total Civil & Services				21,055.15
K2	Applicable Taxes to make it Landed Cost @18%				3,789.93
K	Total landed Cost (K=K1+ K2)				24,845.07
L	Total (J+K)				172,873.57
N	Sub-Total (L+M)				172,873.57
O	CESS 1% of N				1,728.74
P	Gross Total Material +Services (N+O) for DP Without AB Switch				174,602.31
No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)		1			
MATERIALS OF DP With AB Switch					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A,3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66

A1	Total Cost of materials	137,342.61
A2	Applicable Taxes to make it Landed Cost @18%	24,721.67
A	Total landed Cost (A=A1 + A2)	162,064.28
B	Stock, Storage & Insurance i.e 3% of A	4,861.93
C	Sub Total (A+B)	166,926.21
D	Contingency @ 3% of C	5,007.79
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,989.85
F	Transportation @ 7.5% of C	12,519.47
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,940.04
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	Sum of (C to I)	198,887.96

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber including earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	Total Civil & Services				25,658.20
K2	Applicable Taxes to make it Landed Cost @18%				4,618.48
K	Total landed Cost (K=K1+ K2)				30,276.67
L	Total (J+K)				229,164.63
N	Sub-Total (L+M)				229,164.63
O	CESS 1% of N				2,291.65
P	Gross Total Material +Services (N+O) for DP With AB Switch				231,456.28

No. of Cut Point with 180 Degree Angle
(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)

1

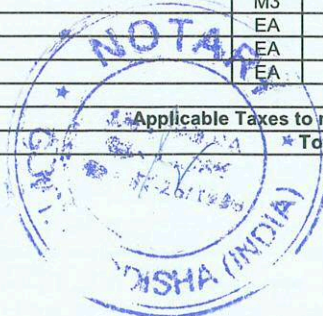
MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	2	440.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70

A1	Total Cost of materials	56,260.04
A2	Applicable Taxes to make it Landed Cost @18%	10,126.81
A	Total landed Cost (A=A1 + A2)	66,386.85
B	Stock, Storage & Insurance i.e 3% of A	1,991.61
C	Sub Total (A+B)	68,378.45
D	Contingency @ 3% of C	2,051.35
E	Tools & Plants @ 2% of C	1,296.20
F	Transportation @ 7.5% of C	5,128.38
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,976.40
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	Sum of (C to I)	81,583.09

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	Total Civil & Services				7,160.84
K2	Applicable Taxes to make it Landed Cost @18%				1,288.95
K	Total landed Cost (K=K1+ K2)				8,449.79



L		Total (J+K)	90,032.89
N		Sub-Total (L+M)	90,032.89
O		CESS 1% of N	900.33
P		Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	90,933.22

No. of Cut Point with 90 Degree Angle
(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)

1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	4	440.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kv	EA	550.00	6	3,300.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	2	440.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
11	Earthing of Support (Coil Type)	EA	164.00	1	164.00
12	H.T. Stay clamp	EA	260.00	2	520.00
13	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
14	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
15	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				Total Cost of materials	61,905.54
A2				Applicable Taxes to make it Landed Cost @18%	11,143.00
A				Total landed Cost (A=A1 + A2)	73,048.53
B				Stock, Storage & Insurance i.e 3% of A	2,191.46
C				Sub Total (A+B)	75,239.99
D				Contingency @ 3% of C	2,257.20
E				Tools & Plants @ 2% of C (Except HT Stay Set)	1,362.06
F				Transportation @ 7.5% of C	5,643.00
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,305.71
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				Sum of (C to I)	89,560.26

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				Total Civil & Services	9,462.37
K2				Applicable Taxes to make it Landed Cost @18%	1,703.23
K				Total landed Cost (K=K1+ K2)	11,165.59
L				Total (J+K)	100,725.86
N				Sub-Total (L+M)	100,725.86
O				CESS 1% of N	1,007.26
P				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	101,733.12

11 Kv Line Length In KM with 40 Mtr. Span
(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)

1

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	23	663,205.00
2	11 KV V cross Arm(GI)	EA	851.00	23	19,573.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	23	1,863.00
4	Danger Plate	EA	180.00	23	4,140.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	35.42	2,762.76
6	GI barbed wire anticlimbing device	KG	74.00	69.00	5,106.00
7	11 KV pin insulator polymer	EA	140.00	69	9,660.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	69	7,590.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	46	10,120.00
10	Earthing of Support (Coil Type)	EA	164.00	23	3,772.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	31.56	2,335.14
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kv	M	131.00	3090.00	404,790.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kv	EA	450.00	3	1,350.00
A1				Total Cost of materials	1,136,266.90



A2	Applicable Taxes to make it Landed Cost @18%				204,528.04
A	Total landed Cost (A=A1 + A2)				1,340,794.95
B	Stock, Storage & Insurance i.e 3% of A				40,223.85
C	Sub Total (A+B)				1,381,018.80
D	Contingency @ 3% of C				41,430.56
E	Tools & Plants @ 2% of C				27,620.38
F	Transportation @ 7.5% of C				103,576.4
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				40,302.97
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				57,495.94
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	Sum of (C to I)				1,651,445.06
Civil & Services					
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	10.35	68,815.60
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.59	17,203.90
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	23	19,228.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	23	6,516.82
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1	Total Civil & Services				122,234.32
K2	Applicable Taxes to make it Landed Cost @18%				22,002.18
K	Total landed Cost (K=K1+ K2)				144,236.49
L	Total Material+Services (J+K)				1,795,681.55
N	Sub-Total (L+M)				1,795,681.55
O	CESS 1% of N				17,956.82
P	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				1,813,638.37
Gross Total Summary					
1	Gross Total Material +Services (N+O) for DP Without AB Switch				174,602.31
2	Gross Total Material +Services (N+O) for DP With AB Switch				231,456.28
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				90,933.22
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				101,733.12
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				1,813,638.37
Q	Gross Total Material +Services				2,412,363.29
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U	Total Inspection Fees (R+S+T)				1,125.00
V	GST @ 18% on Total Inspection Fees (U)				202.50
W	Total Inspection Fees including GST (U+V)				1,327.50
X	Gross Total Material, Services and Inspection Fees (Q+W)				2,413,690.79



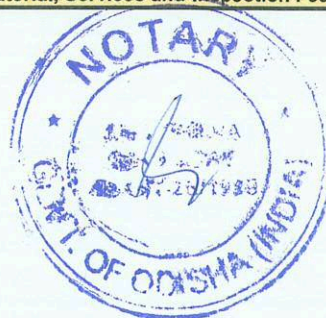
LT AB Cable Line Length with 33 Mtr. Span using - 4C×95 mm² (P)+1C×95 mm²(M)+1CX16 mm²(Street Light)- for LT Extension

MATERIALS FOR LT AB Cable Line

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	9 Mtr. long PSC Pole	EA	3,630.00	30	108,900.00
2	GI flat for danger plate and anticlimbing device	KG	78.00	53	4,141.80
3	LT Stay set Complete	SET	736.00	9	6,624.00
4	7/12 SWG GI stay wire, Grade -2	KG	79.00	108.0	8,532.00
5	LT stay Clamp	EA	350.00	9	3,150.00
6	LT Stay insulator	EA	19.00	9	171.00
7	LT Accessories with Eye hook and Clamp				
7.i.	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	39	9,360.00
7.ii.	EYE hook for XLPE Aerial bunched Cable	EA	75.00	18	1,350.00
7.iii.	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	18	3,906.00
7.iv.	Suspension Clamp with EYE hook for ABC	PAA	193.00	21	4,053.00
8	4C×95 mm ² (P)+1C×95 mm ² (M)+1CX16 mm ² (Street Light) (LT AB Cable)	M	422.00	1050.00	443,100.00
9	10 WAY LT SERVICE Distb.Box	EA	920.00	20	
10	Insulated piercing connector.Type-A-main 50 to 150 sq.mm & Tap-50 to 150 sq.mm	EA	113.08	99	11,194.92
11	Insulated piercing connector.Type-B-main 25 to 150 sq.mm & Tap-6 to 35 sq.mm	EA	62.13	140	8,698.20
12	Insulated piercing connector.Type-C-main 16 to 95 sq.mm & Tap-1.5 to 16 sq.mm	EA	33.90	20	678.00
13	GI Pipe Earthing (each 5th pole to earth)	EA	1,300.00	6	7,800.00
14	Coil Earthing	EA	164.00	24	3,936.00
15	Danger plate (LT)	EA	180.00	30	5,400.00
16	GI barbed wire anticlimbing device	KG	74.00	90.00	6,660.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	15.00	1,110.00
A1	Total Cost of materials				638,764.92
A2	Applicable Taxes to make it Landed Cost @18%				114,977.69
A	Total landed Cost (A=A1 + A2)				753,742.61
B	Stock, Storage & Insurance i.e 3% of A				22,612.28
C	Sub Total (A+B)				776,354.88
D	Contingency @ 3% of C				23,290.65
E	Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)				14,888.36
F	Transportation @ 7.5% of C				58,226.62
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				61,206.08
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				26,471.41
J	Sum of (C to I)				960,437.99

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	9	20,713.73
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	11.25	74,799.56
3	Construction of Earthing chamber including earthing pipe and civil works	EA	3,784.73	6	22,708.38
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	30	8,500.20
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	30	25,080.00
6	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1	Total Civil & Services				162,271.87
K2	Applicable Taxes to make it Landed Cost @18%				29,208.94
K	Total landed Cost (K=K1+ K2)				191,480.80
L	Total (J+K)				1,151,918.79
N	Sub-Total (L+M)				1,151,918.79
O	CESS 1% of N				11,519.19
P	Gross Total Material +Services (N+O) for LT AB Cable Line				1,163,437.98
Q	Inspection Fee of Over Head Line (LV)-Rs. 375 upto 1 KM.				375.00
S	Inspection Fee of Drawing Checking and Approval				750.00
T	Total Inspection Fees (Q+R+S)				1,125.00
U	GST @ 18% on Total Inspection Fees (T)				202.50
V	Total Inspection Fees including GST (T+U)				1,327.50
W	Gross Total Material, Services and Inspection Fees (P+V)				1,164,765.48



LT AB Cable Line Length with 33 Mtr. Span using - 4C×70 mm² (P)+1C×70 mm²(M)+1CX16 mm²(Street Light)- for LT Extension

MATERIALS FOR LT AB Cable Line

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	9 Mtr. long PSC Pole	EA	3,630.00	30	108,900.00
2	GI flat for danger plate and anticlimbing device	KG	78.00	53	4,141.80
3	LT Stay set Complete	SET	736.00	9	6,624.00
4	7/12 SWG GI stay wire, Grade -2	KG	79.00	108.0	8,532.00
5	LT stay Clamp	EA	350.00	9	3,150.00
6	LT Stay insulator	EA	19.00	9	171.00
7	LT Accessories with Eye hook and Clamp				
7.i.	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	39	9,360.00
7.ii.	EYE hook for XLPE Aerial bunched Cable	EA	75.00	18	1,350.00
7.iii.	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	18	3,906.00
7.iv.	Suspension Clamp with EYE hook for ABC	PAA	193.00	21	4,053.00
8	4C×70 mm ² (P)+1C×70 mm ² (M)+1CX16 mm ² (Street Light) (LT AB Cable)	M	311.00	1050.00	326,550.00
9	10 WAY LT SERVICE Distb.Box	EA	920.00	25	23,000.00
10	Insulated piercing connector.Type-A-main 50 to 150 sq.mm & Tap-50 to 150 sq.mm	EA	113.08	126	14,248.08
11	Insulated piercing connector.Type-B-main 25 to 150 sq.mm & Tap-6 to 35 sq.mm	EA	62.13	140	8,698.20
12	Insulated piercing connector.Type-C-main 16 to 95 sq.mm & Tap-1.5 to 16 sq.mm	EA	33.90	20	678.00
13	GI Pipe Earthing (each 5th pole to earth)	EA	1,300.00	6	7,800.00
14	Coil Earthing	EA	164.00	24	3,936.00
15	Danger plate (LT)	EA	180.00	30	5,400.00
16	GI barbed wire anticlimbing device	KG	74.00	90.00	6,660.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	15.00	1,110.00
A1	Total Cost of materials				548,268.08
A2	Applicable Taxes to make it Landed Cost @18%				98,688.25
A	Total landed Cost (A=A1 + A2)				646,956.33
B	Stock, Storage & Insurance i.e 3% of A				19,408.69
C	Sub Total (A+B)				666,365.02
D	Contingency @ 3% of C				19,990.95
E	Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)				12,688.56
F	Transportation @ 7.5% of C				49,977.38
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				50,207.09
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				26,471.41
J	Sum of (C to I)				825,700.41

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	9	20,713.73
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	11.25	74,799.56
3	Construction of Earthing chamber including earthing pipe and civil works	EA	3,784.73	6	22,708.38
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	30	8,500.20
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	30	25,080.00
6	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1	Total Civil & Services				162,271.87
K2	Applicable Taxes to make it Landed Cost @18%				29,208.94
K	Total landed Cost (K=K1+ K2)				191,480.80
L	Total (J+K)				1,017,181.22
N	Sub-Total (L+M)				1,017,181.22
O	CESS 1% of N				10,171.81
P	Gross Total Material +Services (N+O) for LT AB Cable Line				1,027,353.03
Q	Inspection Fee of Over Head Line (LV)-Rs. 375 upto 1 KM.				375.00
S	Inspection Fee of Drawing Checking and Approval				750.00
T	Total Inspection Fees (Q+R+S)				1,125.00
U	GST @ 18% on Total Inspection Fees (T)				202.50
V	Total Inspection Fees including GST (T+U)				1,327.50
W	Gross Total Material, Services and Inspection Fees (P+V)				1,028,680.53



LT AB Cable Line Length with - 4C×70 mm² (P)+1C×70 mm²(M)+1CX16 mm²(Street Light)- for LT 3Ph Conversion

MATERIALS FOR LT AB Cable Line

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	9 Mtr. long PSC Pole	EA	3,630.00	5	18,150.00
2	GI flat for danger plate and anticlimbing device	KG	78.00	9	690.30
3	LT Stay set Complete	SET	736.00	4	2,944.00
4	7/12 SWG GI stay wire, Grade -2	KG	79.00	48.0	3,792.00
5	LT stay Clamp	EA	350.00	4	1,400.00
6	LT Stay insulator	EA	19.00	4	76.00
7	LT Accessories with Eye hook and Clamp				
7.i.	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	39	9,360.00
7.ii.	EYE hook for XLPE Aerial bunched Cable	EA	75.00	18	1,350.00
7.iii.	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	18	3,906.00
7.iv.	Suspension Clamp with EYE hook for ABC	PAA	193.00	21	4,053.00
8	4C×70 mm ² (P)+1C×70 mm ² (M)+1CX16 mm ² (Street Light) (LT AB Cable)	M	311.00	1050.00	326,550.00
9	10 WAY LT SERVICE Distb.Box	EA	920.00	20	18,400.00
10	Insulated piercing connector.Type-A-main 50 to 150 sq.mm & Tap-50 to 150 sq.mm	EA	113.08	106	11,986.48
11	Insulated piercing connector.Type-B-main 25 to 150 sq.mm & Tap-6 to 35 sq.mm	EA	62.13	140	8,698.20
12	Insulated piercing connector.Type-C-main 16 to 95 sq.mm & Tap-1.5 to 16 sq.mm	EA	33.90	24	813.60
13	GI Pipe Earthing (each 5th pole to earth)	EA	1,300.00	3	3,900.00
14	Coil Earthing	EA	164.00	2	328.00
15	Danger plate (LT)	EA	180.00	5	900.00
16	GI barbed wire anticlimbing device	KG	74.00	15.00	1,110.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	2.50	185.00
A1	Total Cost of materials				418,592.58
A2	Applicable Taxes to make it Landed Cost @18%				75,346.66
A	Total landed Cost (A=A1 + A2)				493,939.24
B	Stock, Storage & Insurance i.e 3% of A				14,818.18
C	Sub Total (A+B)				508,757.42
D	Contingency @ 3% of C				15,262.72
E	Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)				9,880.73
F	Transportation @ 7.5% of C				38,156.81
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				47,197.70
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				4,411.90
J	Sum of (C to I)				623,667.28

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.88	12,466.59
3	Construction of Earthing chamber including earthing pipe and civil works	EA	3,784.73	3	11,354.19
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5	1,416.70
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
6	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1	Total Civil & Services				49,093.58
K2	Applicable Taxes to make it Landed Cost @18%				8,836.85
K	Total landed Cost (K=K1+ K2)				57,930.43
L	Total (J+K)				681,597.71
N	Sub-Total (L+M)				681,597.71
O	CESS 1% of N				6,815.98
P	Gross Total Material +Services (N+O) for LT AB Cable Line				688,413.69
Q	Inspection Fee of Over Head Line (LV)-Rs. 375 upto 1 KM.				375.00
S	Inspection Fee of Drawing Checking and Approval				750.00
T	Total Inspection Fees (Q+R+S)				1,125.00
U	GST @ 18% on Total Inspection Fees (T)				202.50
V	Total Inspection Fees including GST (T+U)				1,327.50
W	Gross Total Material, Services and Inspection Fees (P+V)				689,741.19



LT AB Cable Line Length with 33 Mtr. Span using - 2C×35 mm ² (P)+m ² (M)+1CX16 mm ² (Street Light)								
AB Cable LT Line Length In KM with 33 Mtr. Span (Ref. Drawing No.- TPCODL-.....)						1		
Dead End upto 70 sq. mm (9/ KM)						9		
Suspension upto 70 sq. mm (21/ KM)						21		
MATERIALS FOR LT AB Cable Line								
Sl. No.	SAP Code	Description of Materials	Unit	Quantity for 1 KM Line	Line Length in KM	Unit Rate	Total Quantity	Total Amount
1	601000603	9 Mtr. long PSC Pole	EA	30	1	3,630.00	16	58,080.00
2	601000704	GI flat for danger plate and antilimbing device	KG	53	1	78.00	28	2,208.96
3	601000586	LT Stay set Complete	SET	9	1	736.00	9	6,624.00
4	701000012	7/12 SWG GI stay wire, Grade -2	KG	108	1	79.00	108.0	8,532.00
5	601000390	LT stay Clamp	EA	9	1	350.00	9	3,150.00
6	601000153	LT Stay insulator	EA	9	1	19.00	9	171.00
7	LT Accessories with Eye hook and Clamp							
7.i.	601001322	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	39	1	240.00	39	9,360.00
7.ii.	401001107	EYE hook for XLPE Aerial bunched Cable	EA	18	1	75.00	18	1,350.00
7.iii.	401001108	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	18	1	217.00	18	3,906.00
7.iv.	601000628	Suspension Clamp with EYE hook for ABC	PAA	21	1	193.00	21	4,053.00
8	401000919	2C×35 mm ² (P)+1CX16 mm ² (Street Light) (LT AB Cable)	M	1050	1	84.00	1050.00	88,200.00
9	601000189	10 WAY LT SERVICE Distb.Box	EA		1	920.00	25	23,000.00
10	401001003	Insulated piercing connector.Type-A-main 50 to 150 sq.mm & Tap-50 to 150 sq.mm	EA	136	1	113.08	126	14,248.08
11	401001004	Insulated piercing connector.Type-B-main 25 to 150 sq.mm & Tap-6 to 35 sq.mm	EA		1	62.13	140	8,698.20
12	401001005	Insulated piercing connector.Type-C-main 16 to 95 sq.mm & Tap-1.5 to 16 sq.mm	EA		1	33.90	20	678.00
13	601001158	GI Pipe Earthing (each 5th pole to earth)	EA	6	1	1,300.00	3	3,900.00
14	601000593	Coil Earthing	EA	24	1	164.00	13	2,132.00
15	601000260	Danger plate (LT)	EA	30	1	180.00	16	2,880.00
16	701000016	GI barbed wire antilimbing device	KG	90	1	74.00	48.00	3,552.00
17	501000148	GI Nut , Bolt & Washer of different sizes	KG	15	1	74.00	8.00	592.00
A1	Total Cost of materials							2,45,315.24
A2	Applicable Taxes to make it Landed Cost @18%							44,156.74
A	Total landed Cost (A=A1 + A2)							2,89,471.98
B	Stock, Storage & Insurance i.e 3% of A							8,684.16
C	Sub Total (A+B)							2,98,156.14
D	Contingency @ 3% of C							8,944.68
E	Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)							5,419.18
F	Transportation @ 7.5% of C							22,361.71
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)							-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)							20,036.87
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)							14,118.09
J	Sum of (C to I)							3,69,036.68
Civil & Services								
Sl. No.		Description of Materials	Unit	Quantity for 1 KM Line	Line Length in KM	Unit Rate	Total Quantity	Total Amount
1	600303	Fixing of complete Stay Set with all accessories and civil works	EA	9	1	2,301.53	9	20,713.73
2	600272	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	11.25	1	6,648.85	6.00	39,893.10
3	600612	Construction of Earthing chamber incuding earthing pipe and civil works	EA	6	1	3,784.73	3	11,354.19
4	600326	Painting of Pole in Black & Yellow strips/Zebra	EA	30	1	283.34	16	4,533.44
5	600841	GIS Mapping, indexing/numbering of Poles	EA	30	1	836.00	16	13,376.00
6	600916	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1	1	10,470.00	1	10,470.00
K1	Total Civil & Services							1,00,340.46
K2	Applicable Taxes to make it Landed Cost @18%							18,061.28
L	Total landed Cost (K=K1+ K2)							1,18,401.74
M	Other overheads (Including 6% supervision charges) of L							-
N	Sub-Total (L+M)							4,87,438.41
O	CESS 1% of N							4,874.38
P	Gross Total Material +Services (N+O) for LT AB Cable Line							4,92,312.80
Q	6000060	Inspection Fee of Over Head Line (LV)-Rs. 375 upto 1 KM.						375.00
R	6000061	Inspection Fee of Over Head Line (LV)- Rs. 225/ Additional Km						-
S	6000062	Inspection Fee of Drawing Checking and Approval						750.00
T	Total Inspection Fees (Q+R+S)							1,125.00
U	GST @ 18% on Total Inspection Fees (T)							202.50
V	Total Inspection Fees including GST (T+U)							1,327.50
W	Gross Total Material, Services and Inspection Fees (P+V)							4,93,640.30



LT AB Cable Line Length with 33 Mtr. Span using - 4C×95 mm² (P)+1C×95 mm²(M)+1CX16 mm²(Street Light)								
AB Cable LT Line Length In KM with 33 Mtr. Span (Ref. Drawing No.- TPCODL-.....)						1		
Dead End 95-150 sq. mm (9/ KM)						9		
Suspension 95-150 sq. mm (21/ KM)						21		
MATERIALS FOR LT AB Cable Line								
Sl. No.	SAP Code	Description of Materials	Unit	Quantity for 1 KM Line	Line Length in KM	Unit Rate	Total Quantity	Total Amount
1	601000603	9 Mtr. long PSC Pole	EA	30	1	3,630.00	18	65,340.00
2	601000704	GI flat for danger plate and antilimbing device	KG	53,000	1	78.00	32	2,485.08
3	601000586	LT Stay set Complete	SET	9	1	736.00	9	6,624.00
4	701000012	7/12 SWG GI stay wire, Grade -2	KG	108	1	79.00	108.0	8,532.00
5	601000390	LT stay Clamp	EA	9	1	350.00	9	3,150.00
6	601000153	LT Stay Insulator	EA	9	1	19.00	9	171.00
7		LT Accessories with Eye hook and Clamp						
7.i.	601001322	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	39	1	240.00	39	9,360.00
7.ii.	401001107	EYE hook for XLPE Aerial bunched Cable	EA	18	1	75.00	18	1,350.00
7.iii.	401001108	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	18	1	217.00	18	3,906.00
7.iv.	601000628	Suspension Clamp with EYE hook for ABC	PAA	21	1	193.00	21	4,053.00
8	401000937	4C×95 mm² (P)+1C×95 mm²(M)+1CX16 mm²(Street Light) (LT AB Cable)	M	1050	1	422.00	1050.00	4,43,100.00
9	601000189	10 WAY LT SERVICE Distb.Box	EA		1	920.00	20	
10	401001003	Insulated piercing connector.Type-A-main 50 to 150 sq.mm & Tap-50 to 150 sq.mm	EA	116	1	113.08	99	11,194.92
11	401001004	Insulated piercing connector.Type-B-main 25 to 150 sq.mm & Tap-6 to 35 sq.mm	EA		1	62.13	140	8,698.20
12	401001005	Insulated piercing connector.Type-C-main 16 to 95 sq.mm & Tap-1.5 to 16 sq.mm	EA		1	33.90	20	678.00
13	601001158	GI Pipe Earthing (each 5th pole to earth)	EA	6	1	1,300.00	4	5,200.00
14	601000593	Coil Earthing	EA	24	1	164.00	14	2,296.00
15	601000260	Danger plate (LT)	EA	30	1	180.00	18	3,240.00
16	701000016	GI barbed wire antilimbing device	KG	90	1	74.00	54.00	3,996.00
17	501000148	GI Nut , Bolt & Washer of different sizes	KG	15	1	74.00	9.00	666.00
A1						Total Cost of materials		5,84,040.20
A2						Applicable Taxes to make it Landed Cost @18%		1,05,127.24
A						Total landed Cost (A=A1 + A2)		6,89,167.44
B						Stock, Storage & Insurance i.e 3% of A		20,675.02
C						Sub Total (A+B)		7,09,842.46
D						Contingency @ 3% of C		21,295.27
E						Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)		13,621.31
F						Transportation @ 7.5% of C		53,238.18
G						Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)		-
H						Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)		60,165.12
I						Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)		15,882.85
J						Sum of (C to I)		8,74,045.19
Civil & Services								
Sl. No.		Description of Materials	Unit	Quantity for 1 KM Line	Line Length in KM	Unit Rate	Total Quantity	Total Amount
1	600303	Fixing of complete Stay Set with all accessories and civil works	EA	9	1	2,301.53	9	20,713.73
2	600272	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	11.25	1	6,648.85	6.75	44,879.74
3	600612	Construction of Earthing chamber including earthing pipe and civil works	EA	6	1	3,784.73	4	15,138.92
4	600326	Painting of Pole in Black & Yellow strips/Zebra	EA	30	1	283.34	18	5,100.12
5	600841	GIS Mapping, indexing/numbering of Poles	EA	30	1	836.00	18	15,048.00
6	600916	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1	1	10,470.00	1	10,470.00
K1						Total Civil & Services		1,11,350.50
K2						Applicable Taxes to make it Landed Cost @18%		20,043.09
K						Total landed Cost (K=K1+ K2)		1,31,393.59
L						Total (J+K)		10,05,438.79
M						Other overheads (Including 6% supervision charges) of L		-
N						Sub-Total (L+M)		10,05,438.79
O						CESS 1% of N		10,054.39
P						Gross Total Material +Services (N+O) for LT AB Cable Line		10,15,493.17
Q	6000060	Inspection Fee of Over Head Line (LV)-Rs. 375 upto 1 KM.						375.00
R	6000061	Inspection Fee of Over Head Line (LV)- Rs. 225/ Additional Km						-
S	6000062	Inspection Fee of Drawing Checking and Approval						750.00
T						Total Inspection Fees (Q+R+S)		1,125.00
U						GST @ 18% on Total Inspection Fees (T)		202.50
V						Total Inspection Fees including GST (T+U)		1,327.50
W						Gross Total Material, Services and Inspection Fees (P+V)		10,16,820.67



LT AB Cable Line Length with 33 Mtr. Span using - 4C×95 mm ² (P)+1C×95 mm ² (M)+1CX16 mm ² (Street Light)								
AB Cable LT Line Length In KM with 33 Mtr. Span (Ref. Drawing No.- TPCODL-.....)						1		
Dead End 95-150 sq. mm (9/ KM)						9		
Suspension 95-150 sq. mm (21/ KM)						21		
MATERIALS FOR LT AB Cable Line								
Sl. No.	SAP Code	Description of Materials	Unit	Quantity for 1 KM Line	Line Length in KM	Unit Rate	Total Quantity	Total Amount
1	601000603	9 Mtr. long PSC Pole	EA	30	1	3,630.00	30	1,08,900.00
2	601000704	GI flat for danger plate and antilimbing device	KG	53.000	1	78.00	53	4,141.80
3	601000586	LT Stay set Complete	SET	9	1	736.00	9	6,624.00
4	701000012	7/12 SWG GI stay wire, Grade -2	KG	108	1	79.00	108.0	8,532.00
5	601000390	LT stay Clamp	EA	9	1	350.00	9	3,150.00
6	601000153	LT Stay insulator	EA	9	1	19.00	9	171.00
7		LT Accessories with Eye hook and Clamp						
7.i.	601001322	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	39	1	240.00	39	9,360.00
7.ii.	401001107	EYE hook for XLPE Aerial bunched Cable	EA	18	1	75.00	18	1,350.00
7.iii.	401001108	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	18	1	217.00	18	3,906.00
7.iv.	601000628	Suspension Clamp with EYE hook for ABC	PAA	21	1	193.00	21	4,053.00
8	401000937	4C×95 mm ² (P)+1C×95 mm ² (M)+1CX16 mm ² (Street Light) (LT AB Cable)	M	1050	1	422.00	1050.00	4,43,100.00
9	601000189	10 WAY LT SERVICE Distb.Box	EA		1	920.00	20	
10	401001003	Insulated piercing connector.Type-A-main 50 to 150 sq.mm & Tap-50 to 150 sq.mm	EA	116	1	113.08	99	11,194.92
11	401001004	Insulated piercing connector.Type-B-main 25 to 150 sq.mm & Tap-6 to 35 sq.mm	EA		1	62.13	140	8,698.20
12	401001005	Insulated piercing connector.Type-C-main 16 to 95 sq.mm & Tap-1.5 to 16 sq.mm	EA		1	33.90	20	678.00
13	601001158	GI Pipe Earthing (each 5th pole to earth)	EA	6	1	1,300.00	6	7,800.00
14	601000593	Coil Earthing	EA	24	1	164.00	24	3,936.00
15	601000260	Danger plate (LT)	EA	30	1	180.00	30	5,400.00
16	701000016	GI barbed wire antilimbing device	KG	90	1	74.00	90.00	6,660.00
17	501000148	GI Nut , Bolt & Washer of different sizes	KG	15	1	74.00	15.00	1,110.00
A1						Total Cost of materials		6,38,764.92
A2						Applicable Taxes to make it Landed Cost @18%		1,14,977.69
A						Total landed Cost (A=A1 + A2)		7,53,742.61
B						Stock, Storage & Insurance i.e 3% of A		22,612.28
C						Sub Total (A+B)		7,76,354.88
D						Contingency @ 3% of C		23,290.65
E						Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)		14,888.36
F						Transportation @ 7.5% of C		58,226.62
G						Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)		-
H						Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)		61,206.08
I						Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)		26,471.41
J						Sum of (C to I)		9,60,437.99
Civil & Services								
Sl. No.		Description of Materials	Unit	Quantity for 1 KM Line	Line Length in KM	Unit Rate	Total Quantity	Total Amount
1	600303	Fixing of complete Stay Set with all accessories and civil works	EA	9	1	2,301.53	9	20,713.73
2	600272	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	11.25	1	6,648.85	11.25	74,799.56
3	600612	Construction of Earthing chamber including earthing pipe and civil works	EA	6	1	3,784.73	6	22,708.38
4	600326	Painting of Pole in Black & Yellow strips/Zebra	EA	30	1	283.34	30	8,500.20
5	600841	GIS Mapping, indexing/numbering of Poles	EA	30	1	836.00	30	25,080.00
6	600916	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1	1	10,470.00	1	10,470.00
K1						Total Civil & Services		1,62,271.87
K2						Applicable Taxes to make it Landed Cost @18%		29,208.94
K						Total landed Cost (K=K1+ K2)		1,91,480.80
L						Total (J+K)		11,51,918.79
M						Other overheads (Including 6% supervision charges) of L		-
N						Sub-Total (L+M)		11,51,918.79
O						CESS 1% of N		11,519.19
P						Gross Total Material +Services (N+O) for LT AB Cable Line		11,63,437.98
Q	6000060	Inspection Fee of Over Head Line (LV)-Rs. 375 upto 1 KM.						375.00
R	6000061	Inspection Fee of Over Head Line (LV)- Rs. 225/ Additional Km						-
S	6000062	Inspection Fee of Drawing Checking and Approval						750.00
T						Total Inspection Fees (Q+R+S)		1,125.00
U						GST @ 18% on Total Inspection Fees (T)		202.50
V						Total Inspection Fees including GST (T+U)		1,327.50
W						Gross Total Material, Services and Inspection Fees (P+V)		11,64,765.48



Annexure 5- Board Approval Copy



**Certified True Copy of the Resolution passed at the
Board Meeting held on 22nd April 2026**

*RESOLVED that multiyear Capital Expenditure (Capex) of the Company for below mentioned activities, be and is hereby approved, as under, subject to the approval of Odisha Electricity Regulation Commission (OERC):

Sl. No.	Proposal Details (As per the direction of Commission)	Total Amount	Budget breakup in 5 Years				
			FY27	FY28	FY29	FY30	FY31
1	Complete metering of 2-3 Nos. of 11 kV feeders & associated DTRs and Consumers in each Division	62.5	10.6	25.6	25.6	0.6	0.0
2	DTR Metering upto and including 63 kVA	4.6	1.8	2.8	0.0	0.0	0.0
3	AT&C Loss Reduction in 11 kV feeders	256.6	43.6	64.1	71.8	46.2	30.8
4	Installation of Guard Wires for 33 kV & 11 kV overhead lines crossing over National & State Highway	260.9	44.4	65.2	73.1	47.0	31.3
5	Protection system on HV & LV side of DTRs of 25 KVA and above	960.4	103.4	180.2	307.3	240.1	129.4
6	Protection system on HV Side of DTR 250KVA & above	83.9	14.3	21.0	23.5	15.1	10.1
7	Timeline for addressing Low Voltage issues in urban and major city areas	92.0	15.6	23.0	25.8	16.6	11.0
Total Cost		1720.9	233.7	381.9	527.1	365.5	212.6

Note: The proposed CAPEX cost is exclusive of Employee Cost.

FURTHER RESOLVED that the Chief Executive Officer and Chief Financial Officer of the Company be and are hereby severally authorized to do all such acts, deeds, matters, and things as may be necessary or expedient to give effect to this resolution.*

Certified True Copy
For TP Northern Odisha Distribution Limited

Devendra Prasad
(Company Secretary)
ACS: 39789

Januganj, Remuna Golei, Balasore, Odisha- 756019



TP NORTHERN ODISHA DISTRIBUTION LIMITED
(A Joint Venture of Tata Power and Government of Odisha)
Corporate Office: Januganj, Remuna Golei, Balasore - 756019, Odisha, India
Registered Office: Januganj, Remuna Golei, Balasore - 756019, Odisha, India-Tel: 06782-244336
Web: www.tpnodl.com, Email: ceooffice@tpnodl.com, CIN: U40109OR2021PLC035951