



गेल (इंडिया) लिमिटेड

(भारत सरकार का उपक्रम – महारत्न कंपनी)

GAIL (India) Limited

(A Government of India Undertaking— A Maharatna Company)

“स्वान”, दूसरी मंज़िल,
#323, कोडिगेहल्ली मेन रोड,
सहकार नगर,
बेंगलुरु – 560092
“Swan”, 2nd Floor,
#323, Kodigehalli Main Road,
Sahakarnagar,
Bengaluru – 560092
फ़ोन/Phone : 080-46244111
फैक्स/Fax : 011-26185941

LETTER OF ACCEPTANCE

To
DEHN INDIA PVT. LTD.

LOA No. : GAIL/BLR23-19B/5300039687/20114227/BBA
Dated : 28.09.2023

IMT MANESAR,
PLOT NO 213, SECTOR-7
IMT MANESAR,
GURUGRAM-122050
Haryana ,India
Tele No : 0124-4007680

RFQ No. & Date : 3300097951 Dt. 25.09.2023
Your offer/Qtn.No.: NIL
Qtn. Dt. : 21.08.2023
E Tender No.: NIL
Vendor Type : OTHERS (Non-MSE)
Vendor GSTN No : 06AADCD9928J1ZA

Kind Attn :

Name of Work : SERVICE CONTRACT FOR MITIGATION WORKS FOR LIGHTNING PROTECTION SYSTEM OF DBPL PIPELINE INCLUDING SPUR LINE INSTALLATIONS

Dear Sir/Madam

With reference to your Offer against our RFQ and all subsequent correspondences (if any) till date and in continuation of our Fax/Letter of Intent (if any) we are pleased to award the subject works highlighting the following salient features:

Scope of Work : SERVICE CONTRACT FOR MITIGATION WORKS FOR LIGHTNING PROTECTION SYSTEM OF

Price Basis:

ITEM	1	MITIGATION WORKS -LPS - INR	2,204,782.80
		KARNATAKA	
ITEM	2	MITIGATION WORKS -LPS - GOA INR	313,762.00
ITEM	3	MITIGATION WORKS -LPS - INR	531,713.90
		MAHARASTRA	

The estimated contract value of the subject job under this contract shall be Rs. 30,50,258.70 including GST.

The Order/ contract value mentioned above is subject to Price Reduction Schedule clause.

Schedule of Rates:

The proforma for schedule of rates enclosed with tender document shall be replaced by the Schedule of Rates (SOR) as enclosed to this LOA for purpose of Quantity, UOM & Rate.

Abnormally High Rated Items :

For SOR item no. 1: sub item no. 1.12, 2.7, 3.7, 4.13, 5.4, 5.8, 5.13; For SOR item no. 2: sub item no.

पंजीकृत कार्यालय:
गेल भवन 16, भीकाएजी कामा प्लेस
नई दिल्ली, 110066-इंडिया

REGD. OFFICE:
GAIL BHAWAN, 16, BHIKAIJI CAMA PLACE
NEW DELHI-110 066. INDIA

सीआईएन/CIN
L40200DL1984GOI018976
www.gailonline.com

1.7

For SOR item no. 3: sub item no. 1.7

are AHR items

Duration of Contract/Completion Schedule :

Total period of contract shall be 6 months reckoned from the date of issue of LOA.

Performance Bank Guarantee:

The bidder shall submit Contract Performance Security / Security Deposit [CPS/SD] amount @10% of Total Order / Contract value (excluding GST) i.e. Rs. 2,58,497/- valid upto 27.09.2024 and claim period upto 27.12.2024, within 30 days of award of contract from GAIL.

OR

Initial Security Deposit (ISD) @ 5% of Total Contract Value within 30 days of FOA/notification of award and deduction @ 10% of the RA bill subsequently from RA bills till the total amount of security deposit (including ISD and deducted amount) reaches 10% of Total Contract value.

In case, GAIL allows additional time for submission of CPBG/SD beyond 30 days, a penal interest of Marginal Cost of Fund based Lending Rate (MCLR) for one year charged by SBI (applicable on due date of submission of CPBG/SD i.e. 30th day after issuance of FOA/Notification of award) plus 4.0% p.a (on CPBG/SD amount) shall be charged for delay beyond 30 days i.e. from 31st days after issuance of LOA.

The bidder shall furnish the Contract Performance Security (CPS) in accordance with ITB, General Conditions of the Contract & as per Form F-4 of Tender Document only. Further, they also submit covering letter along with CPS as per format at F-4.

Contract Agreement:

Contractor is required to execute a contract agreement with GAIL (India) Limited, Bengaluru on non-judicial stamp paper of Karnataka State for appropriate value within fifteen (15) days from the date of issuance of LOA in exact format available in the tender document. All charges including cost of stamp paper associated with this agreement shall be borne by contractor.

Payment Terms:

As per clause no. 15 of SCC.

Bills are submitted through e-Measurement & e-Billing "ANJANI" Portal. For user manual please contact EIC.

The contractor shall submit GST invoice for the completed portion / SOR item of the works in the running account bills (RA bills) in triplicate duly supported by relevant certificates, reports / Measurement sheets/ MoM documents and jointly signed site reports etc. as per SOR for processing & payment along with test reports.

All payment will be made by e-payment only and same shall be within 15 days for RA bills. The payment made shall be required to be acknowledged by proper money receipt by the contractor.

Vendor Invoice Management (VIM)

GAIL has implemented Vendor Invoice Management (VIM) system titled as #SARATHI# for automation, digitization & centralization of Account Payable process w.e.f. 01.04.2023.

Supplier/ Contractor/Service Provide/ Consultant is required to upload digital invoice on 'Sparsh' portal. The system optimizes and simplifies the process of receiving, managing, monitoring and forwarding invoices for payment process. The link of 'Sparsh' portal is as under:

<https://sparsh.gail.co.in/flipper/#/login>

The 'Help Manual' hyperlink to access the detailed User Manual, Demo Videos, FAQ#s and other relevant information is available on 'Sparsh' portal.

Only digital invoice is to be uploaded on 'Sparsh' portal and all other supporting documents along with copy of

invoice are to submitted to concerned as defined in Purchase Order (PO)/ Letter of Acceptance (LoA).

Paying Authority:
VIM Portal.

PAN Particulars:

GAIL (India) Ltd PAN No. AAACG1209J

"As per CBDT Notification No. 95/2015 dated 30.12.2015, mentioning of PAN no. is mandatory for procurement of goods / services/works/consultancy services exceeding Rs. 2 Lacs per transaction.

Accordingly, supplier/ contractor/ service provider/ consultant should mention their PAN no. in their invoice/ bill for any transaction exceeding Rs. 2 lakhs. As provided in the notification, in case supplier/ contractor/ service provider/ consultant do not have PAN no., they have to submit declaration in Form 60 along with invoice/ bill for each transaction. Payment of supplier/ contractor / service provider/ consultant shall be processed only after fulfilment of above requirement".

GSTN Details :

Please note that our state/plant wise GSTN details as below for invoicing and other purpose.

NG Trans(DBPL)-Bengaluru	(3170)	
NG Trans(DBPL)-Goa	(3176)	30AAACG1209J1Z9
NGTransmission-DBPL-Maharashtra	(3165)	27AAACG1209J1ZW

GAIL is in the process of implementing Vendor Invoice Management System for processing of invoices w.e.f. 01.04.2023. The solution is being configured to handle both physical invoices as well as digitally signed invoices. This system is expected to highly optimize the invoice management at GAIL and expedite their processing in future. The detailed methodology for submission of invoices shall be informed separately.

As a pre-requisite to the system, it is important to mention the details of Purchase Order/ Letter of Acceptance number on the face of invoice. Accordingly you are requested to ensure Purchase Order/ Letter of Acceptance number is clearly mentioned on the Invoice. Further Invoices should be system generated and no handwritten invoices shall be eligible for OCR conversion on VIM portal.

Your Bank Details :

Please note that details of your bank account in our system are as under. You are requested to verify the same and intimate discrepancies, if any

Account No. - 165105500002
Bank Name - ICICI BANK
IFSC Code - ICIC0001651

Price Reduction Schedule:

Applicable as per clause no. 27 of GCC-Works.

27.1 Time is the essence of the CONTRACT. In case the CONTRACTOR fails to complete the WORK within the stipulated period, then, unless such failure is due to Force Majeure as defined in Clause 26 here above or due to EMPLOYER's defaults, the Total Contract price shall be reduced by ½ % of the total Contract Price per complete week of delay or part thereof subject to a maximum of 5 % of the Total Contract Price, by way of reduction in price for delay_ and not as penalty. The said amount will be recovered from amount due to the Contractor/ Contractor's Contract Performance Security payable on demand.

The decision of the ENGINEER-IN-CHARGE in regard to applicability of Price Reduction Schedule shall be final and binding on the CONTRACTOR.

27.2 All sums payable under this clause is the reduction in price due to delay in completion period at the above agreed rate.

Defect Liability Period:

Defects liability period shall be Three (3) months from the date of issuance of completion certificate.

Contract Document:

FOI Reference/Regularization:

NIL

Engineer-In-Charge:

Sh. Rajendran Arul, DGM(O&M), GAIL Bengaluru shall be the Engineer-In-Charge for this job. You are requested to contact him at E-mail Id: arul@gail.co.in for further instructions.

Other Contractual Stipulations:

1. Gail has implemented "ANJANI" e-measurement book & e-billing portal for ease in submission of measurement book/bill and reduction in paper transaction.

Accordingly, GAIL will process the bill with measurement book through "ANJANI" e-measurement book & e-billing portal (Link: <https://gailebank.gail.co.in/MBautomation/frmlogin.aspx>). Accordingly, contractor/ service provider/ consultant is requested to forward the RA bill on "ANJANI" e-measurement book & e-billing portal through concerned EIC/CIC/SIC, whichever is applicable.

Further, user manual is also available on aforesaid portal.

In case of any issue while submitting the RA bills in ANJANI portal, kindly contact to engineer-in-charge or team ANJANI (E-mail Id: embhelpdesk@gail.co.in (0120-2446400 extension 11509).

2. All other terms & conditions shall be applicable as per Tender No. 2023_GAIL_163218_1 dated 03.08.2023.

General Conditions of Contract:

As per GCC-Works attached with tender.

Special Conditions of Contract:

As per SCC & SOW attached with the tender.

Post Order Correspondence:

All post order correspondences shall be made with Engineer-In-Charge (EIC) only.

Vendor Code: 101043547
DEHN INDIA PVT. LTD.

LOA No. : GAIL/BLR23-19B/5300039687/20114227/BBA
LOA Date : 28.09.2023

Enclosures :

This order is being issued in triplicate. Two copies of the order duly signed, stamped and dated on each page, may be returned within 3 days from date of receipt of the order to the undersigned..

For & on behalf of
GAIL (India) Ltd.

Bishar
Bin Ali

Digitally signed
by Bishar Bin Ali
Date: 2023.09.28
16:31:58 +05'30'

(Authorized Signatory)

NAME :
DESIGNATION :

CONTRACTOR'S ACCEPTANCE:

PLACE : SIGNATURE :

DATE :
NAME :
DESIGNATION :
SEAL :

NOTE: Each page of this order including its annexure should be signed and stamped by the contractor before returning to GAIL (India) Ltd..

SCHEDULE OF RATES

Item : 1 - MITIGATION WORKS -LPS - KARNATAKA
Plant : 3170 - NG Trans(DBPL)-Bengaluru- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
1	BELGAUM O&M BASE: KARNATAKA					
1.1	Supply & Installation of Vertical	22	NUM	2,000.00	44,000.00	

Supply and Installation of Vertical Air Termination Solid Aluminium with base- 16 mm dia and 1000 mm long. Air Terminal Base should be tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350#s waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol

1.2	Supply & installation of Vertical Air	20	NUM	3,000.00	60,000.00	
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Supply and installation of Vertical Air Terminal of 1 Mtr Mast consisting of Air Terminal with base 34 mm dia and 1000 mm length GI Mast with base plate suitable for mounting on concrete / RCC roof Suitable for high wind load .Mounting arrangement may vary based on site requirement.

1.3	Supply & installation of 8 mm dia	55	M	145.00	7,975.00	
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Supply and installation of 8 mm dia solid Aluminium Conductor tested as per IEC 62561- 2 conducted in the Govt. aggregated thirty party laboratory to meet the requirement of IS/ IEC 62305

1.4	Supply & instalaltion Al conductor hold	55	NUM	110.00	6,050.00	
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Supply and installation of Al conductor holding clamp suitable for fixing 8 mm ,.Conductor holder @ 1 meter distance should be tested as per IEC-62561-2 conditioning & Ageing test, conducted in the Govt. accredited thirty party laboratory to meet the requirement of IS/ IEC 62305

1.5	Supply & installation of Expansion	4	NUM	440.00	1,760.00	
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Supply and installation of Expansion Piece without connector to compensate the expansion and contraction of Solid Round Al. Conductor during temperature variations to be provided on conductors length over 20 meters to connect Solid Round Al. Conductor at both ends to meet the requirements of IS/IEC 62305

1.6	Supply & installation of Al. Straight	8	NUM	205.00	1,640.00	
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Supply and installation of Al. Straight Splicers for 8mm and 10 mm Conductor to meet the requirement of IS IEC 62305 tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350#s waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol.

1.7	Supply & installation of 8 mm dia	100	M	145.00	14,500.00	
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Supply and installation of 8 mm dia solid Aluminium Conductor tested as per IEC 62561- 2 conducted in the Govt. aggregated thirty party laboratory to meet the requirement of IS/ IEC 62305

1.8	Supply & installation of Al conductor	100	NUM	110.00	11,000.00	
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Supply and installation of Al conductor holding clamp suitable for fixing 8 mm ,.Conductor holder @ 1 meter distance should be tested as per IEC-62561-2 conditioning & Ageing test, conducted in the Govt. accredited thirty party laboratory to meet the requirement of IS/ IEC 62305

1.9	Supply & instalaltion of Cross	8	NUM	205.00	1,640.00	
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Supply and installation of Cross splicer should be tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350#s waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol

1.10	Supply & installation Each downconductor	14	NUM	500.00	7,000.00	
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Supply and installation of Each down-conductor should be provided with a test link in order to disconnect the earth termination system for enabling measurements. SS Test Link To connect Round to Flat conductor

1.11	Supply & installation of 25 X 6 mm GI	140	M	225.00	31,500.00	
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Supply and installation of 25 X 6 mm GI strip from AL Conductor to the earth pit station and further the same strip shall be used for interconnecting all the earth pits below ground level Zinc coating: 500 g/m square (Approx :70 micron coating) Should be tested and use exclusively for lightning protection ,earthing system and ring equipotential bonding.

1.12	Supply & installation Holder -GI	28	NUM	210.00	5,880.00	YY
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Supply and installation Holder -GI for fixing 25 x 6 mm GI Strip.

Item : 1 - MITIGATION WORKS -LPS - KARNATAKA
Plant : 3170 - NG Trans(DBPL)-Bengaluru- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
1.13	Supply & installation of connector	18	NUM	500.00	9,000.00	

Supply and installation of connector -To connect air terminal 8-10 mm with earth fixing point to meet the requirements of IS/IEC 62305;

1.14	Supply & installation Earth Electrode	3	SET	10,600.00	31,800.00	
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Supply and installation of Earth Electrode Cu Bonded Steel Rod 14.2mm dia x 3000mm-(250Microns);Eco Friendly rust proof heavy duty weather proof Polyethylene Earth Pit Chamber with following dimensions :254 mm dia (top), 330 mm dia (bottom) & 260 mm (height);14.2 / OD SS Clamp Both Side; Eco Safe carbon based backfill compound - 50 Pounds.

1.15	Supply & installation of SPD 415VAC	5	EA	10,100.00	50,500.00	
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Supply and installation of SURGE PROTECTION DEVICE FOR 415VAC (THREE PHASE)

T1 + T2 I imp (10/350 # secs) 12.5kA (L-N) 50kA
(N-E), In(8/20 # secs) 12.5kA (L - N) 50kA (N-E), Up
< 1.5kV Uc = 280V, TOV (5 Sec) = 348V or equivalent

1.16	Supply & installation of SPD 230VAC	1	EA	5,850.00	5,850.00	
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Supply and installation of SURGE PROTECTION DEVICE FOR 230VAC (SINGLE PHASE)

T1 + T2, 1 ph, I imp (10/350# secs) 12.5kA (L-N)
50kA (N-E) In(8/20 # secs) 12.5kA (L - N) 50kA (NE)
Up < 1.5kV Uc = 280v TOV(5 Sec) = 348V or equivalent

2	CHITRADURGA BASE: KARNATAKA					
2.1	Supply & Installation of Vertical	28	NUM	2,000.00	56,000.00	

Supply and Installation of Vertical Air Termination Solid Aluminium with base- 16 mm dia and 1000 mm long. Air Terminal Base should be tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350#s waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol

2.2	Supply & installation of Vertical Air	28	NUM	3,000.00	84,000.00	
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Supply and installation of Vertical Air Terminal of 1 Mtr Mast consisting of Air Terminal with base 34 mm dia and 1000 mm length GI Mast with base plate suitable for mounting on concrete / RCC roof Suitable for high wind load .Mounting arrangement may vary based on site requirement.

2.3	Supply & installation of 8 mm dia	105	M	145.00	15,225.00	
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Supply and installation of 8 mm dia solid Aluminium Conductor tested as per IEC 62561- 2 conducted in the Govt. aggregated thirty party laboratory to meet the requirement of IS/ IEC 62305

2.4	Supply & instalation of Al conductor	105	NUM	110.00	11,550.00	
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Supply and installation of Al conductor holding clamp suitable for fixing 8 mm ,Conductor holder @ 1 meter distance should be tested as per IEC-62561-2 conditioning & Ageing test, conducted in the Govt. accredited thirty party laboratory to meet the requirement of IS/ IEC 62305

2.5	Supply & installation of Each down	14	NUM	500.00	7,000.00	
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Supply and installation of Each down-conductor should be provided with a test link in order to disconnect the earth termination system for enabling measurements. SS Test Link To connect Round to Flat conductor

2.6	Supply & installation of 25 X 6 mm GI	140	M	225.00	31,500.00	
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Supply and installation of 25 X 6 mm GI strip from AL Conductor to the earth pit station and further the same strip shall be used for interconnecting all the earth pits below ground level Zinc coating: 500 g/m square (Approx :70 micron coating) Should be tested and use exclusively for lightning protection ,earthing system and ring equipotential bonding.

2.7	Supply & installation Holder -GI	28	NUM	210.00	5,880.00	YY
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Supply and installation Holder -GI for fixing 25 x 6 mm GI Strip;

2.8	Supply & installation of connector	16	NUM	500.00	8,000.00	
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Item : 1 - MITIGATION WORKS -LPS - KARNATAKA
Plant : 3170 - NG Trans(DBPL)-Bengaluru- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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Supply and installation of connector -To connect air terminal 8-10 mm with earth fixing point to meet the requirements of IS/IEC 62305;

2.9	Supply & installation of SPD 415VAC	7	EA	10,100.00	70,700.00	
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Supply and installation of SURGE PROTECTION DEVICE FOR 415VAC (THREE PHASE)

T1 + T2 I imp (10/350 # secs) 12.5kA (L-N) 50kA
(N-E), In(8/20 # secs) 12.5kA (L - N) 50kA (N-E), Up
< 1.5kV Uc = 280V, TOV (5 Sec) = 348V or equivalent

2.10	Supply & installation of SPD 230VAC	3	EA	5,850.00	17,550.00	
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Supply and installation of SURGE PROTECTION DEVICE FOR 230VAC (single phase)

T1 + T2, 1 ph, I imp (10/350# secs) 12.5kA (L-N)
50kA (N-E) In(8/20 # secs) 12.5kA (L - N) 50kA (NE)
Up < 1.5kV Uc = 280v TOV(5 Sec) = 348V or equivalent

3	HUBLI BASE: KARNATAKA					
3.1	Supply & Installation of Vertical	22	NUM	2,000.00	44,000.00	

Supply and Installation of Vertical Air Termination Solid Aluminium with base- 16 mm dia and 1000 mm long. Air Terminal Base should be tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350#s waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol

3.2	Supply & installation of Vertical Air	20	NUM	3,000.00	60,000.00	
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Supply and installation of Vertical Air Terminal of 1 Mtr Mast consisting of Air Terminal with base 34 mm dia and 1000 mm length GI Mast with base plate suitable for mounting on concrete / RCC roof Suitable for high wind load .Mounting arrangement may vary based on site requirement.

3.3	Supply & installation of 8 mm dia	90	M	145.00	13,050.00	
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Supply and installation of 8 mm dia solid Aluminium Conductor tested as per IEC 62561- 2 conducted in the Govt. aggregated thirty party laboratory to meet the requirement of IS/ IEC 62305

3.4	Supply & instalation of Al conductor	90	NUM	110.00	9,900.00	
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Supply and installation of Al conductor holding clamp suitable for fixing 8 mm ,.Conductor holder @ 1 meter distance should be tested as per IEC-62561-2 conditioning & Ageing test, conducted in the Govt. accredited thirty party laboratory to meet the requirement of IS/ IEC 6230

3.5	Supply & installation of Each down	12	NUM	500.00	6,000.00	
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Supply and installation of Each down-conductor should be provided with a test link in order to disconnect the earth termination system for enabling measurements. SS Test Link To connect Round to Flat conductor.

3.6	Supply & installation of 25 X 6 mm GI	120	M	225.00	27,000.00	
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Supply and installation of 25 X 6 mm GI strip from AL Conductor to the earth pit station and further the same strip shall be used for interconnecting all the earth pits below ground level Zinc coating: 500 g/m square (Approx :70 micron coating) Should be tested and use exclusively for lightning protection ,earthing system and ring equipotential bonding.

3.7	Supply and installation Holder -GI	24	NUM	210.00	5,040.00	YY
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Supply and installation Holder -GI for fixing 25 x 6 mm GI Strip;

3.8	Supply & installation of connector	14	NUM	500.00	7,000.00	
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Supply and installation of connector -To connect air terminal 8-10 mm with earth fixing point to meet the requirements of IS/IEC 62305;

3.9	Supply & installation of SPD 415VAC	7	EA	10,100.00	70,700.00	
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Supply and installation of SPD 415VAC (THREE PHASE) Surge Protection devices

Item : 1 - MITIGATION WORKS -LPS - KARNATAKA
Plant : 3170 - NG Trans(DBPL)-Bengaluru- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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T1 + T2 I imp (10/350 # secs) 12.5kA (L-N) 50kA
(N-E), In(8/20 # secs) 12.5kA (L - N) 50kA (N-E), Up
< 1.5kV Uc = 280V, TOV (5 Sec) = 348V or equivalent

4	BIDADI BASE - KARNATAKA					
4.1	Supply & Installation of Vertical	20	NUM	2,000.00	40,000.00	

Supply and Installation of Vertical Air Termination Solid Aluminium with base- 16 mm dia and 1000 mm long. Air Terminal Base should be tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350#s waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol

4.2	Supply & installation of Vertical Air	13	NUM	3,000.00	39,000.00	
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Supply and installation of Vertical Air Terminal of 1 Mtr Mast consisting of Air Terminal with base 34 mm dia and 1000 mm length GI Mast with base plate suitable for mounting on concrete / RCC roof Suitable for high wind load .Mounting arrangement may vary based on site requirement.

4.3	Supply & installation of 8 mm dia	90	M	145.00	13,050.00	
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Supply and installation of 8 mm dia solid Aluminium Conductor tested as per IEC 62561- 2 conducted in the Govt. aggregated thirty party laboratory to meet the requirement of IS/ IEC 62305

4.4	Supply & instalaltion of Al conductor	90	NUM	110.00	9,900.00	
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Supply and installation of Al conductor holding clamp suitable for fixing 8 mm ,.Conductor holder @ 1 meter distance should be tested as per IEC-62561-2 conditioning & Ageing test, conducted in the Govt. accredited thirty party laboratory to meet the requirement of IS/ IEC 62305

4.5	Supply & installation of Expansion	5	NUM	440.00	2,200.00	
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Supply and installation of Expansion Piece without connector to compensate the expansion and contraction of Solid Round Al. Conductor during temperature variations to be provided on conductors length over 20 meters to connect Solid Round Al. Conductor at both ends to meet the requirements of IS/IEC 62305

4.6	Supply & installation of Al. Straight	10	NUM	205.00	2,050.00	
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Supply and installation of Al. Straight Splicers for 8mm and 10 mm Conductor to meet the requirement of IS IEC 62305 tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350#s waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol

4.7	Supply & installation of 8 mm dia solid	112	M	145.00	16,240.00	
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Supply and installation of 8 mm dia solid Aluminium Conductor tested as per IEC 62561- 2 conducted in the Govt. aggregated thirty party laboratory to meet the requirement of IS/ IEC 62305; Supply and installation of 8 mm dia solid Aluminium Conductor tested as per IEC 62561- 2 conducted in the Govt. aggregated thirty party laboratory to meet the requirement of IS/ IEC 62305

4.8	Supply & instalaltion of Al conductor	112	NUM	110.00	12,320.00	
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Supply and installation of Al conductor holding clamp suitable for fixing 8 mm ,.Conductor holder @ 1 meter distance

Should be tested as per IEC-62561-2 conditioning & Ageing test, conducted in the Govt. accredited third party laboratory to meet the requirement of IS/ IEC 62305

4.9	Supply & inst. of Al. Straight Splicers	2	NUM	205.00	410.00	
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Supply & Installation of Al. Straight Splicers for 8mm and 10 mm Conductor to meet the requirement of IS IEC 62305 tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350#s waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol

4.10	Supply & instalaltion of Cross	6	NUM	205.00	1,230.00	
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Supply and installation of Cross splicer should be tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350#s waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol

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Item : 1 - MITIGATION WORKS -LPS - KARNATAKA
Plant : 3170 - NG Trans(DBPL)-Bengaluru- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
4.11	Supply & installation of Each down	16	NUM	500.00	8,000.00	

Supply and installation of Each down-conductor should be provided with a test link in order to disconnect the earth termination system for enabling measurements. SS Test Link To connect Round to Flat conductor.

4.12	Supply & installation of 25 X 6 mm GI	155	M	225.00	34,875.00	
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Supply and installation of 25 X 6 mm GI strip from AL Conductor to the earth pit station and further the same strip shall be used for interconnecting all the earth pits below ground level Zinc coating: 500 g/m square (Approx :70 micron coating) Should be tested and use exclusively for lightning protection ,earthing system and ring equipotential bonding.

4.13	Supply and installation Holder -GI	32	NUM	210.00	6,720.00	YY
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Supply and installation Holder -GI for fixing 25 x 6 mm GI Strip;

4.14	Supply & installation of connector	21	NUM	500.00	10,500.00	
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Supply and installation of connector -To connect air terminal 8-10 mm with earth fixing point to meet the requirements of IS/IEC 62305;

4.15	Supply & installation of Earth Electrode	2	SET	10,600.00	21,200.00	
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Supply and installation of Earth Electrode Cu Bonded Steel Rod 14.2mm dia x 3000mm-(250Microns);Eco Friendly rust proof heavy duty weather proof Polyethylene Earth Pit Chamber with following dimensions :254 mm dia (top), 330 mm dia (bottom) & 260 mm (height);14.2 / OD SS Clamp Both Side; Eco Safe carbon based backfill compound - 50 Pounds.

4.16	Supply & installation of SPD 415VAC	5	EA	10,100.00	50,500.00	
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Surge Protection devices as per SOR and location wise as per bill of material list is to be installed Electrical System at incoming Power supply Point

Supply and installation of SPD 415VAC:

T1 + T2 I imp (10/350 # secs) 12.5kA (L-N) 50kA
(N-E), In(8/20 # secs) 12.5kA (L - N) 50kA (N-E), Up
< 1.5kV Uc = 280V, TOV (5 Sec) = 348V or equivalent

4.17	Supply & installation of SPD 230VAC	2	EA	5,850.00	11,700.00	
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Supply and installation of SPD 230VAC: surge protection device single phase

T1 + T2, 1 ph, I imp (10/350# secs) 12.5kA (L-N)
50kA (N-E) In(8/20 # secs) 12.5kA (L - N) 50kA (NE)
Up < 1.5kV Uc = 280v TOV(5 Sec) = 348V or equivalent

5	BANGALORE BASE- KARNATAKA					
5.1	Supply & Installation of Vertical	15	NUM	2,000.00	30,000.00	

Supply and installation of Vertical Air Termination Solid Aluminium with base- 16 mm dia and 1000 mm long. Air Terminal Base should be tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350#s waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol

5.2	Supply & installation of Vertical Air	15	NUM	3,000.00	45,000.00	
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Supply and installation of Vertical Air Terminal of 1 Mtr Mast consisting of Air Terminal with base 34 mm dia and 1000 mm length GI Mast with base plate suitable for mounting on concrete / RCC roof Suitable for high wind load .Mounting arrangement may vary based on site requirement;

5.3	Supply & installation of 8 mm dia	459	M	145.00	66,555.00	
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Supply and installation of 8 mm dia solid Aluminium Conductor tested as per IEC 62561- 2 conducted in the Govt. aggregated thirty party laboratory to meet the requirement of IS/ IEC 62305;

5.4	Supply & instalaltion of Al conductor	459	NUM	110.00	50,490.00	YY
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Supply and installation of Al conductor holding clamp suitable for fixing 8 mm ,.Conductor holder @ 1 meter

Item : 1 - MITIGATION WORKS -LPS - KARNATAKA
Plant : 3170 - NG Trans(DBPL)-Bengaluru- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
distance should be tested as per IEC-62561-2 conditioning & Ageing test, conducted in the Govt. accredited thirty party laboratory to meet the requirement of IS/ IEC 62305						
5.5	Supply & installation of Expansion	25	NUM	440.00	11,000.00	
Supply and installation of Expansion Piece without connector to compensate the expansion and contraction of Solid Round Al. Conductor during temperature variations to be provided on conductors length over 20 meters to connect Solid Round Al. Conductor at both ends to meet the requirements of IS/IEC 62305						
5.6	Supply & installation of Al. Straight	50	NUM	205.00	10,250.00	
Supply and installation of Al. Straight Splicers for 8mm and 10 mm Conductor to meet the requirement of IS IEC 62305 tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350#s waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol						
5.7	Supply & installation of 8 mm dia solid	249	M	145.00	36,105.00	
Supply and installation of 8 mm dia solid Aluminium Conductor tested as per IEC 62561- 2 conducted in the Govt. aggregated third party laboratory to meet the requirement of IS/ IEC 62305						
5.8	Supply & instalation of Al conductor	249	NUM	110.00	27,390.00	YY
Supply and installation of Al conductor holding clamp suitable for fixing 8 mm ,.Conductor holder @ 1 meter distance should be tested as per IEC-62561-2 conditioning & Ageing test, conducted in the Govt. accredited thirty party laboratory to meet the requirement of IS/ IEC 62305						
5.9	Supply & inst. of Al. Straight Splicers	9	NUM	205.00	1,845.00	
Supply and installation of Al. Straight Splicers for 8mm and 10 mm Conductor to meet the requirement of IS IEC 62305 tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350#s waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol						
5.10	Supply & instalation of Cross	20	NUM	205.00	4,100.00	
Supply and installation of Cross splicer should be tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350#s waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol						
5.11	Supply & installation of Each down	27	NUM	500.00	13,500.00	
Supply and installation of Each down-conductor should be provided with a test link in order to disconnect the earth termination system for enabling measurements. SS Test Link To connect Round to Flat conductor.						
5.12	Supply & installation of 25 X 6 mm GI	482	M	225.00	108,450.00	
Supply and installation of 25 X 6 mm GI strip from AL Conductor to the earth pit station and further the same strip shall be used for interconnecting all the earth pits below ground leve Zinc coating: 500 g/m square (Approx :70 micron coating) Should be tested and use exclusively for lightning protection ,earthing system and ring equipotential bonding						
5.13	Supply and installation Holder -GI	54	NUM	210.00	11,340.00	YY
Supply and installation Holder -GI for fixing 25 x 6 mm GI Strip						
5.14	Supply & installation of connector	24	NUM	500.00	12,000.00	
Supply and installation of connector -To connect air terminal 8-10 mm with earth fixing point to meet the requirements of IS/IEC 62305						
5.15	Supply & installation of Earth Electrode	10	SET	10,600.00	106,000.00	
Supply and installation of Earth Electrode Cu Bonded Steel Rod 14.2mm dia x 3000mm-(250Microns);Eco Friendly rust proof heavy duty weather proof Polyethylene Earth Pit Chamber with following dimensions :254 mm dia (top), 330 mm dia (bottom) & 260 mm (height).;14.2 / OD SS Clamp Both Side; Eco Safe carbon based backfill compound - 50 Pounds						
5.16	Supply & installation of of Pipe type	90	NUM	750.00	67,500.00	
Supply and installation of Pipe type Clamp Holder -SS-Round for fixing conductor on pipe to meet the requirements of IS /IEC 62305 -3						
5.17	Supply & installation of Standing Seam	324	M	150.00	48,600.00	

Item : 1 - MITIGATION WORKS -LPS - KARNATAKA
Plant : 3170 - NG Trans(DBPL)-Bengaluru- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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Supply and installation of Standing Seam clamp: To hold 8 mm Al conductor at every 1m dist on the top roof without any drilling on roof, Installation can be made through simple fastening system, mainly used for seaming sheet roof application tested as per IEC-62561-2 for conditioning & Ageing test & conducted in the Govt. accredited Third party laboratory to meet the requirements of IS/IEC 62305

5.18	Supply & installation of Special standing	2	NUM	750.00	1,500.00	
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Supply and installation of Special standing seam fixture Clamp for Air terminal on Metal Structure -Site specific

5.19	Supply & installation of SPD 415VAC	9	EA	10,100.00	90,900.00	
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Surge Protection devices as per SOR and location wise as per bill of material list is to be installed Electrical System at incoming Power supply Point

Supply and installation of SPD 415VAC: THREE PHASE
T1 + T2 I imp (10/350 # secs) 12.5kA (L-N) 50kA
(N-E), In(8/20 # secs) 12.5kA (L - N) 50kA (N-E), Up
< 1.5kV Uc = 280V, TOV (5 Sec) = 348V or equivalent

5.20	Supply & installation of SPD 230VAC	1	EA	5,850.00	5,850.00	
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Supply and installation of SPD 230VAC: SINGLE PHASE SURGE PROTECTION DEVICE

T1 + T2, 1 ph, I imp (10/350# secs) 12.5kA (L-N)
50kA (N-E) In(8/20 # secs) 12.5kA (L - N) 50kA (NE)
Up < 1.5kV Uc = 280v TOV(5 Sec) = 348V or equivalent

Work Order Item 00001 Basic Item Value : INR 1,868,460.00
(RUPEE ONE MILLION EIGHT HUNDRED SIXTY-EIGHT THOUSAND FOUR HUNDRED SIXTY ONLY)
Item Specific Conditions :
Total Tax = 336,322.80
18 % IGST - Cenvatable-(IX)
Total item value including taxes & duties : INR 2,204,782.80

Item : 2 - MITIGATION WORKS -LPS - GOA
Plant : 3176 - NG Trans(DBPL)-Goa- Goa (GDD)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
1	GOA BASE					
1.1	Supply & Installation of Vertical	22	NUM	2,000.00	44,000.00	

Supply and Installation of Vertical Air Termination Solid Aluminium with base- 16 mm dia and 1000 mm long. Air Terminal Base should be tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350#s waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol

1.2	Supply & installation of Vertical Air	22	NUM	3,000.00	66,000.00	
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Supply and installation of Vertical Air Terminal of 1 Mtr Mast consisting of Air Terminal with base 34 mm dia and 1000 mm length GI Mast with base plate suitable for mounting on concrete / RCC roof Suitable for high wind load .Mounting arrangement may vary based on site requirement.

Item : 2 - MITIGATION WORKS -LPS - GOA
Plant : 3176 - NG Trans(DBPL)-Goa- Goa (GDD)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
1.3	Supply & installation of 8 mm dia	110	M	145.00	15,950.00	

Supply and installation of 8 mm dia solid Aluminium Conductor tested as per IEC 62561- 2 conducted in the Govt. aggregated thirty party laboratory to meet the requirement of IS/ IEC 62305

1.4	Supply & instalation of Al conductor	110	NUM	110.00	12,100.00	
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Supply and installation of Al conductor holding clamp suitable for fixing 8 mm ,Conductor holder @ 1 meter distance should be tested as per IEC-62561-2 conditioning & Ageing test, conducted in the Govt. accredited thirty party laboratory to meet the requirement of IS/ IEC 62305

1.5	Supply & installation of Each down	15	NUM	500.00	7,500.00	
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Supply and installation of Each down-conductor should be provided with a test link in order to disconnect the earth termination system for enabling measurements. SS Test Link To connect Round to Flat conductor

1.6	Supply & installation of 25 X 6 mm GI	150	M	225.00	33,750.00	
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Supply and installation of 25 X 6 mm GI strip from AL Conductor to the earth pit station and further the same strip shall be used for interconnecting all the earth pits below ground level Zinc coating: 500 g/m square (Approx :70 micron coating) Should be tested and use exclusively for lightning protection ,earthing system and ring equipotential bonding.

1.7	Supply and installation Holder -GI	30	NUM	210.00	6,300.00	YY
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Supply and installation Holder -GI for fixing 25 x 6 mm GI Strip;

1.8	Supply & installation of connector	15	NUM	500.00	7,500.00	
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Supply and installation of connector -To connect air terminal 8-10 mm with earth fixing point to meet the requirements of IS/IEC 62305;

1.9	Supply & installation of Earth Electrode	1	SET	10,600.00	10,600.00	
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Supply and installation of Earth Electrode Cu Bonded Steel Rod 14.2mm dia x 3000mm-(250Microns);Eco Friendly rust proof heavy duty weather proof Polyethylene Earth Pit Chamber with following dimensions :254 mm dia (top), 330 mm dia (bottom) & 260 mm (height).;14.2 / OD SS Clamp Both Side; Eco Safe carbon based backfill compound - 50 Pounds.

1.10	Supply & installation of SPD 415VAC	5	EA	10,100.00	50,500.00	
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Surge Protection devices as per SOR and location wise as per bill of material list is to be installed Electrical System at incoming Power supply Point

Supply and installation of SPD 415VAC: THREE PHASE

T1 + T2 I imp (10/350 # secs) 12.5kA (L-N) 50kA

(N-E), In(8/20 # secs) 12.5kA (L - N) 50kA (N-E), Up

< 1.5kV Uc = 280V, TOV (5 Sec) = 348V or equivalent

1.11	Supply & installation of SPD 230VAC	2	EA	5,850.00	11,700.00	
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Supply and installation of SPD 230VAC: SURGE PROTECTION DEVICE SINGLE PHASE

T1 + T2, 1 ph, I imp (10/350# secs) 12.5kA (L-N)

50kA (N-E) In(8/20 # secs) 12.5kA (L - N) 50kA (NE)

Up < 1.5kV Uc = 280v TOV(5 Sec) = 348V or equivalent

Work Order Item 00002

Basic Item Value : INR 265,900.00

(RUPEE TWO HUNDRED SIXTY-FIVE THOUSAND NINE HUNDRED ONLY)

Total Tax = 47,862.00

18 % IGST - Cenvatable-(IX)

Total item value including taxes & duties : INR 313,762.00

Item : 3 - MITIGATION WORKS -LPS - MAHARASTRA

Item : 3 - MITIGATION WORKS -LPS - MAHARASTRA
Plant : 3165 - NGTransmission-DBPL-Maharashtra- Maharashtra (MAH)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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Plant : 3165 - NGTransmission-DBPL-Maharashtra- Maharashtra (MAH)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
1	DABHOL & KOLHAPUR BASE: MAHARASHTRA					
1.1	Supply & Installation of Vertical	33	NUM	2,000.00	66,000.00	

Supply and Installation of Vertical Air Termination Solid Aluminium with base- 16 mm dia and 1000 mm long. Air Terminal Base should be tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350#s waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol

1.2	Supply & installation of Vertical Air	33	NUM	3,000.00	99,000.00	
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supply and installation of Vertical Air Terminal of 1 Mtr Mast consisting of Air Terminal with base 34 mm dia and 1000 mm length GI Mast with base plate suitable for mounting on concrete / RCC roof Suitable for high wind load .Mounting arrangement may vary based on site requirement.

1.3	Supply & installation of 8 mm dia	150	M	145.00	21,750.00	
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Supply and installation of 8 mm dia solid Aluminium Conductor tested as per IEC 62561- 2 conducted in the Govt. aggregated thirty party laboratory to meet the requirement of IS/ IEC 62305

1.4	Supply & instalation of Al conductor	150	NUM	110.00	16,500.00	
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Supply and installation of Al conductor holding clamp suitable for fixing 8 mm ,Conductor holder @ 1 meter distance should be tested as per IEC-62561-2 conditioning & Ageing test, conducted in the Govt. accredited thirty party laboratory to meet the requirement of IS/ IEC 62305

1.5	Supply & installation of Each down	20	NUM	500.00	10,000.00	
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Supply and installation of Each down-conductor should be provided with a test link in order to disconnect the earth termination system for enabling measurements. SS Test Link To connect Round to Flat conductor.

1.6	Supply & installation of 25 X 6 mm GI	335	M	225.00	75,375.00	
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Supply and installation of 25 X 6 mm GI strip from AL Conductor to the earth pit station and further the same strip shall be used for interconnecting all the earth pits below ground level Zinc coating: 500 g/m square (Approx :70 micron coating) Should be tested and use exclusively for lightning protection ,earthing system and ring equipotential bonding.

1.7	Supply and installation Holder -GI	38	NUM	210.00	7,980.00	YY
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Supply and installation Holder -GI for fixing 25 x 6 mm GI Strip;

1.8	Supply & installation of connector	20	NUM	500.00	10,000.00	
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Supply and installation of connector -To connect air terminal 8-10 mm with earth fixing point to meet the requirements of IS/IEC 62305;

1.9	Supply & installation of Earth Electrode	2	SET	10,600.00	21,200.00	
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Supply and installation of Earth Electrode Cu Bonded Steel Rod 14.2mm dia x 3000mm-(250Microns);Eco Friendly rust proof heavy duty weather proof Polyethylene Earth Pit Chamber with following dimensions :254 mm dia (top), 330 mm dia (bottom) & 260 mm (height);14.2 / OD SS Clamp Both Side; Eco Safe carbon based backfill compound - 50 Pounds.

1.10	Supply & installation of SPD 415VAC	11	EA	10,100.00	111,100.00	
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Surge Protection devices as per SOR and location wise as per bill of material list is to be installed Electrical System at incoming Power supply Point

Supply and installation of SPD 415VAC: THREE PHASE

T1 + T2 I imp (10/350 # secs) 12.5kA (L-N) 50kA

(N-E), In(8/20 # secs) 12.5kA (L - N) 50kA (N-E), Up

< 1.5kV Uc = 280V, TOV (5 Sec) = 348V or equivalent

Vendor Code: 101043547
DEHN INDIA PVT. LTD.

LOA No. : GAIL/BLR23-19B/5300039687/20114227/BBA
LOA Date : 28.09.2023

Item : 3 - MITIGATION WORKS -LPS - MAHARASTRA
Plant : 3165 - NGTransmission-DBPL-Maharashtra- Maharashtra (MAH)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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1.11	Supply & installation of SPD 230VAC	2	EA	5,850.00	11,700.00	
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Supply and installation of SPD 230VAC: SURGE PROTECTION DEVICE SINGLE PHASE

T1 + T2, 1 ph, I imp (10/350# secs) 12.5kA (L-N)
50kA (N-E) In(8/20 # secs) 12.5kA (L - N) 50kA (NE)
Up < 1.5kV Uc = 280v TOV(5 Sec) = 348V or equivalent

Work Order Item 00003 Basic Item Value : INR 450,605.00
(RUPEE FOUR HUNDRED FIFTY THOUSAND SIX HUNDRED FIVE ONLY)
Total Tax = 81,108.90
18 % IGST - Cenvatable-(IX)
Total item value including taxes & duties : INR 531,713.90

Total estimated contract value excluding all tax and duties : 2,584,965.00
(RUPEES TWENTY-FIVE LAC EIGHTY-FOUR THOUSAND NINE HUNDRED SIXTY-FIVE ONLY)

Total estimated contract value including all tax and duties : 3,050,258.70
(RUPEES THIRTY LAC FIFTY THOUSAND TWO HUNDRED FIFTY-EIGHT & PAISE SEVENTY ONLY)

*Service items marked YY under AHR column are AHR items. Any service item marked #Y or Y# confirmation is required from authorized dealing officer who shall be final authority regarding AHR declaration. However, service items marked #Y or Y# shall be treated as AHR unless confirmed Non-AHR by dealing officer.

Signature Not Verified

Digitally signed by Bishar Bin Ali
Date: 2024.04.17 11:02:51 IST
Location: eProcurement System for
Central PSUs