			Annexure-VA
	Pro-forma for furnishing Actual annual perfo	ormance/operational expense	<u>s</u>
	for the Transmission Systems	for FY 2022-23	
Name of [	Transmission Company:	Power Grid Corporat	tion of India Limited
	Transmission Region:	Eastern	
	· ·		
<u> 1 abie-1 - 1</u>	Region wise information (average for the year, but othery	vise total for the region) for A	AC system
Sl. No.	Particulars	Units	2022-23
1	Number of AC Substation in operation		
	(1) 765 kV		5
	(2) 400 kV		29
	(3) 220 kV	No.	7
	(4)  132 kV		1
	(Nomenclature are as per highest available voltage level)		
2	Transformation capacity of AC Substation in operation		
	(1) 765 kV		22500
	(2) 400 kV	MVA*	28957.50
	(3) 220 kV		3000
	(4)  132 kV		120
	(Nomenclature are as per highest available voltage level)		
3	Number of bays in each AC Substation in operation		
	(1) 765 kV		71
	(2) 400 kV	No.	489.5
	(3) 220 kV		185
	(4)  132 kV		61
	(Nomenclature are as per highest available voltage level)		
4	Ckt-km of AC lines in operation (1) 765 kV		2379.17
	(1) 765 kV (2) 765 kV charged at 400 KV		0
	(3) 400 kV	<del></del>	18338.41
	(4) 400 kV Charged at 220 KV	No.	0
	(5) 220 kV	<del></del>	1680.93
	(6) 132 kV	<del></del>	461.50
	(Nomenclature are as per highest available voltage level)	<del>-  </del>	101.00
5	Total number of employees* engaged in O&M of Sub-stati	ion	
	(1) 765 kV		130
	(2) 400 kV	No	481
	(3) 220 kV		81
	(4) 132 kV		6
	(1) 765 kV		3829.54
	(2) 400 kV	Cost (Rs. Lakhs)	14169.30
	(3) 220 kV	Cost (to. Daidle)	2386.10
	(4)   132 kV		176.75
	(Nomenclature are as per highest available voltage level)		
6	Total number of employees* engaged in O&M of		
	Transmission Lines		
	(1) 765 kV		87
	(2) 400 kV	No	269
	(3) 220 kV	110	47

				Annexure-VA
		Pro-forma for furnishing Actual annual perform for the Transmission Systems for		<u>s</u>
Name of	Transmi	ssion Company:	Power Grid Corporat	ion of India Limited
	Name of Transmission Region:		Eastern	
Table-1	- Region	wise information (average for the year, but otherwise	e total for the region) for A	C system
Sl. No.	,	Particulars	Units	2022-23
	(4)	132 kV		1
	(1)	765 kV		2562.85
	(2)	400 kV	<b>–</b>	7924.20
	(3)	220 kV	Cost (Rs. Lakhs)	1384.53
	(4)	132 kV	<del> </del>	29.46
		enclature are as per highest available voltage level)		27.10
7		ary Power Consumption (excluding colony power)		
/	(1)	765 kV	<del> </del>	6.74
	(2)	400 kV	<del> </del>	22.86
	(3)	220 kV	H MU	2.11
	(4)	132 kV	<del> </del>	0.08
		nclature are as per highest available voltage level)	<del> </del>	0.00
8		Power Consumption		
	(1)	765 kV		0.622
	(2)	400 kV	MU	2.822
	(3)	220 kV	IVIO	0.780
	(4)	132 kV		0.064
		nclature are as per highest available voltage level)		
9		CTs/Reactors		
	(1)	765 kV ICT		0
	(2)	400 kV ICT		0
	(2)	400 kV Reactor	No.	0
	(3)	220 kV ICT		0
	(4)	132 kV ICT		0
	(1)	765 kV ICT		0
	(2)	400 kV ICT		0
	(2)	400 kV Reactor	Cost (Rs. Lakhs)	0
	(3)	220 kV ICT	<b>†</b>	0
	(4)	132 kV ICT	<del> </del>	0
	` ,	enclature are as per highest available voltage level)		
10		Smoothing Reactors		
	(1)	765 kV		
	(2)	400 kV	No.	
	(3)	220 kV	INU.	
	(4)	132 kV		NT A
	(1)	765 kV	_	NA
	(2)	400 kV	Cost (Rs. Lakhs)	
	(3)	220 kV	Cost (NS. Lakits)	
	(4)	132 kV		
	(Nome	nclature are as per highest available voltage level)		
11	ICTs			

			Annexure-V
		annual performance/operational expe	<u>nses</u>
	<u> </u>	ion Systems for FY 2022-23	
	Transmission Company:		oration of India Limited
Name of	Transmission Region:	East	ern Region
Table-1	- Region wise information (average for the yea	r, but otherwise total for the region) f	or AC system
Sl. No.		Units	2022-23
	(1) 765 kV		15
	(2) 400 kV	No.	79
	(3) 220 kV	140.	21
	(4) 132 kV		4
	(1) $765 \text{ kV}$		
	(2) $400 \text{ kV}$	Cost (Rs. Lakhs)	Data separately not
	(3) 220 kV	Cost (Rs. Larits)	available/maintained
	(4) 132 kV		
	(Nomenclature are as per highest available vo	oltage level)	
12	Reactors		
	(1) 765 kV		29
	(2) 400 kV	No.	152.5
	(3) 220 kV		0
	(4) 132 kV		0
	(1) 765 kV		
	(2) 400 kV	Cost (Rs. Lakhs)	Data separately not
	(3) 220 kV	Seet (Fet Zuitais)	available/maintained
	(4) 132 kV		
	(Nomenclature are as per highest available vo	oltage level)	
13	STATCOM	No.	0
		Cost (Rs. Lakhs)	0
14	Average outage duration for		
	A. Transmission Lines		0.20
	(1) 765 kV		8.39
	(2) 400 kV		5.44
	(3) 220 kV (4) 132 kV		7.67
	(4) 132 kV B. Transformers		1.00
	(1) 765 kV		8.85
	(1) 700 KV (2) 400 kV	Hours/	11.66
	(3) 220 kV	year	9.03
	(4) 132 kV		9.53
	C. Reactors		7.00
	(1) 765 kV		3.95
	(2) 400 kV		3.04
	(3) 220 kV		NA
	(4) 132 kV		NA
	(Nomenclature are as per highest available vo	oltage level)	
15	Cost of Initial spares (for S/S)		
	A. Capitalized		
	(1) 765 kV		
	(2) 400 kV		319.97
	(3) 220 kV		313.37
	(4) 132 kV		

				Annexure-VA
		Pro-forma for furnishing Actual annual perfo	rmance/operational expe	nses_
		for the Transmission Systems	for FY 2022-23	
Name of [	Transm	ission Company:	Power Grid Corpo	oration of India Limited
Name of [	Transm	ission Region:	East	ern Region
Table-1 -	Region	wise information (average for the year, but otherw	vise total for the region) f	or AC system
Sl. No.		Particulars	Units	2022-23
	B.	In Stock		
	(1)	765 kV	(Rs. in Lakhs)	Data separately not
	(2)	400 kV	(KS. III Lakits)	available/maintained
	(3)	220 kV		avanable/ manitamed
	(4)	132 kV		
	C.	Cost of initial spares consumed		
	(1)	765 kV		Data separately not
	(2)	400 kV		available/maintained
	(3)	220 kV		avanable/ mamanleu
	(4)	132 kV		
16	Cost o	f O&M spares Consumed (for S/s)		
	(1)	765 kV		

			Annexure-VA
	Pro-forma for furnishing Actual annual performa	nce/operational expe	1ses_
	for the Transmission Systems for l	FY 2022-23	
Name of Transmission Company: Power Grid Corporation			oration of India Limited
Name of [	Transmission Region:	Easte	ern Region
Table-1 - 1	Region wise information (average for the year, but otherwise	total for the region) f	or AC system
Sl. No.	Particulars	Units	2022-23
	(2) 400 kV		
	(3) 220 kV	(Rs. In Lakhs)	1510
	(4) 132 kV		
	(Nomenclature are as per highest available voltage level)		
17	Cost of Initial spares (for Lines)		
	A. Capitalized		
	(1) 765 kV		
	(2) 400 kV		105.03
	(3) 220 kV		103.03
	(4) 132 kV		
	B. In Stock		
	(1) 765 kV	(Rs. In Lakhs)	Data separately not
	(2) 400 kV	(RS. III Lakiis)	available/maintained
	(3) 220 kV		avanable/ manitamed
	(4) 132 kV		
	C. Cost of initial spares consumed		
	(1) 765 kV		Data separately not
	(2) 400 kV		available/maintained
	(3) 220 kV		avanable/ manitamed
	(4)  132 kV		
18	Cost of O&M spares Consumed (for Lines)		
	(1) 765 kV		
	(2) 400 kV	(Rs. In Lakhs)	1331
	(3) 220 kV	(Ito. III Editio)	1001
	(4)  132 kV		
	(Nomenclature are as per highest available voltage level)		

Note: \*Executive & non-executive/contract labour

	Pro-forma for furnishing Actual annual performation for the Transmission System		Annexure-V
Name o	of Transmission Company:		d Corporation of India Limited
	of Transmission Company.	Tower Gir	Eastern Region
- (41110 0	Table-2 - Station wise information (average	for the year) for HV	
• •		tor the year, for hiv	DC systems
i) Sasara			
S1.	Particulars	Units	2022-23
<b>No.</b> 1	Total and a constant * and a linear body of the Olivina	No.	33
•	Total number of employees* engaged in sub-station O&M	Cost (Rs. in lakh)	261.83
2	T. 1 1 ( 1 * 1: Oak (T : :	No.	Data for manpower for HVDC TL O&N
2	Total number of employees*engaged in O&M of Transmission Lines	INO.	is not available separately as the sam
	Lines	C (P : 111)	set of employees are maintaining bot
		Cost (Rs. in lakh)	type of line (AC & HVDC)
			,
3	Auxiliary power consumption (excluding colony power)	(MU)	4.48
4	Colony power consumption	(MU)	0.22
5	Outage duration	Pole-days	0.94
6	Load curtailment	MW - days	
7	Cost of initial spares	(Rs. in lakh)	
	a) Capitalized		
	b) In Stock		
	c) Consumed		
8	Cost of O&M spares consumed	(Rs. in lakh)	114.29
ii) Alipu	-		
S1.	Particulars	Units	2022-23
<b>No.</b> 1	* 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	No.	15
1	Total number of employees* engaged in sub-station O&M	Cost (Rs. in lakh)	
2	*	No.	333.67
2	Total number of employees*engaged in O&M of Transmission Lines	NO.	Data for manpower for HVDC TL O&N is not available separately as the sam
	Lines		set of employees are maintaining both
		Cook (Do in lalila)	
		Cost (Rs. in lakh)	type of line (AC & HVDC)
		Cost (Rs. in lakii)	type of line (AC & HVDC)
3	Auxiliary power consumption (excluding colony power)	(MU)	type of line (AC & HVDC)  4.72
3 4	Auxiliary power consumption (excluding colony power)  Colony power consumption	, ,	
		(MU)	4.72
4	Colony power consumption	(MU) (MU)	4.72 0.23
4 5	Colony power consumption Outage duration	(MU) (MU) Pole-days	4.72 0.23
4 5 6	Colony power consumption Outage duration Load curtailment	(MU) (MU) Pole-days MW - days	4.72 0.23
4 5 6	Colony power consumption Outage duration Load curtailment Cost of initial spares	(MU) (MU) Pole-days MW - days	4.72 0.23
4 5 6	Colony power consumption  Outage duration  Load curtailment  Cost of initial spares  a) Capitalized  b) In Stock  c) Consumed	(MU) (MU) Pole-days MW - days (Rs. in lakh)	4.72 0.23 1.88
4 5 6	Colony power consumption Outage duration Load curtailment Cost of initial spares a) Capitalized b) In Stock	(MU) (MU) Pole-days MW - days	4.72 0.23
4 5 6 7	Colony power consumption Outage duration Load curtailment Cost of initial spares a) Capitalized b) In Stock c) Consumed Cost of O&M spares consumed	(MU) (MU) Pole-days MW - days (Rs. in lakh)	4.72 0.23 1.88
4 5 6 7 8 iii) Talc S1.	Colony power consumption Outage duration Load curtailment Cost of initial spares a) Capitalized b) In Stock c) Consumed Cost of O&M spares consumed	(MU) (MU) Pole-days MW - days (Rs. in lakh)	4.72 0.23 1.88
4 5 6 7 8 iii) Talc Sl. No.	Colony power consumption  Outage duration  Load curtailment  Cost of initial spares  a) Capitalized  b) In Stock  c) Consumed  Cost of O&M spares consumed  Cher  Particulars	(MU) (MU) Pole-days MW - days (Rs. in lakh)  (Rs. in lakh)	99.43 2022-23
4 5 6 7 8 iii) Talc S1.	Colony power consumption  Outage duration  Load curtailment  Cost of initial spares  a) Capitalized  b) In Stock  c) Consumed  Cost of O&M spares consumed	(MU) (MU) Pole-days MW - days (Rs. in lakh)  (Rs. in lakh)	4.72 0.23 1.88 99.43
4 5 6 7 8 iii) Talc S1. No.	Colony power consumption  Outage duration  Load curtailment  Cost of initial spares  a) Capitalized  b) In Stock  c) Consumed  Cost of O&M spares consumed  Cher  Particulars	(MU) (MU) Pole-days MW - days (Rs. in lakh)  (Rs. in lakh)	4.72 0.23 1.88 99.43

			Annexure-VA		
	Pro-forma for furnishing Actual annual performance/operational expenses				
	for the Transmission Systems for FY 2022-23				
Name of Transmission Company: Power Grid Corporation of India Limited			d Corporation of India Limited		
Name o	f Transmission Region:		Eastern Region		
	Table-2 - Station wise information (avera	ge for the year) for HV	DC systems		
		Cost (Rs. in lakh)	type of line (AC & HVDC)		
3	Auxiliary power consumption (excluding colony power)	(MU)	7.75		
4	Colony power consumption	(MU)	Employees residing in NTPC Colony		
5	Outage duration	Pole-days	3.67		
6	Load curtailment	MW - days			
7	Cost of initial spares	(Rs. in lakh)			
	a) Capitalized				
	b) In Stock				
	c) Consumed				
8	Cost of O&M spares consumed	(Rs. in lakh)	87.86		

Note: \*Executive & non-executive/contract labour

			Annexure -VI
	Pro-forma for furnishing Actual annual performa	nce/operational data	
	for the communication system for F	( 2022-23	
	ransmission Company:	Power Grid Corporati	
Name of Ti	ransmission Region:	Eastern 1	
	<u>Table-3 - Region wise information (average for the year, but a factor of the year) and the factor of the year and the factor of the year and the factor of the year and year and</u>	t otherwise total for the	region)
C1 NI	for Communication system	T ** **	2022.20
Sl. No.	Particulars	Units	2022-23
1	Number of Communication Nodes in operation	(No.)	52
2	Average length of OPGW links in operation	(in Kms.)	7082
3	Number of Remote Terminal Units(RTUs)	(No.)	14
4	Number of PLCC links	(No.)	0
5	Number of OPGW links	(No.)	64
6	Number of Auxiliary Power Supply(DC) Nodes	(No.)	34
7	Number of employees engaged in O&M of RTU and	(No.)	
	Communication System	_	
	1) Executive	-	4
	2) Non executive	┦ ├	0
0	3) Outsourced	(1/	0
8	Average outage duration for	(hours/ year)	105
	a) Wideband Communication Links	-	185
	b) RTUs	-	98.57
	c) PLCC		0
	d) Auxiliary Power Supply System		54
9	Cost of Initial spare	( INR in lakh)	
	a) Capitalized	1	0
	b) In Stock	1	21.34
	c) Consumed	1	26.87
10	Cost of O&M spares	( INR in lakh)	78.65
	a) Consumed		
11	Number of PMU installed in the region	(No.)	300

( INR in lakh)

72.80

(Note: separate note on utilization of PMU is to be given along with benefit availed during the year)

O & M expenses of PMU incurred in the region

12

### Details of Operation & Maintenance Expenses of Transmission O&M service (To be filled for each of the Transmission Region)

Name of Transmission Company: Name of Transmission Region:		Power Grid Corporation of India Limited Eastern Region	
Sr.No.	ITEM	2022-23	
1.0	Repairs and Maintenance Expenses :		
1)	Repairs of Plant & Machinery	8692.23	
2)	Consumption of Stores (not capitalized)	5870.51	
3)	Consumption of Spares (not capitalized )	-	
4)	Patrolling expenses	-	
5)	Power Charges (electricity consumed for repairing activity)	4392.03	
6)	Expenses of Diesel Generating sets	108.84	
7)	Provisions	-	
8)	Prior Period Adjustment , if any	-	
9)	Other expenses, if any (please provide details)	-	
	Sub-total (R&M Expenses)	19063.61	
2.0	Administrative & General Expenses:		
1)	Insurance	1486.43	
2)	Security (General other than special)	5558.74	
3)	Rent	924.99	
4)	Electricity Charges	-	
5)	Traveling and conveyance	1889.63	
6)	Communication expenses	312.27	
7)	Advertisement and publicity	187.82	
8)	Foundation laying and inauguration	0.00	
9)	Books Periodicals and Journals	37.16	
10)	Research expenses	203.92	
11)	Cost Audit Fees	21.09	
12)	Horticulture Expenses	556.64	
13)	Bandwidth charges dark fibre lease charges (Telecom) etc	937.79	
14)	Donations expenses	0.00	
15)	Entertainment expenses	63.74	
16)	Filing Fees	1226.15	
17)	Legal Expenses	299.45	
18)	Consultancy Expenses	8.03	
19)	Professional charges (not covered under employee expenses)	287.73	
20)	Printing and Stationary	64.28	
21)	Hiring of Vehicle (excluding construction & Corporate exp)	2315.46	
22)	Training and Recruitment expenses	760.13	
23)	Rates and taxes	596.04	
24)	Rebate to Customers	3101.75	
25)	Self Insurance Reserve	4771.41	
26)	Provisions (Provide details)	0.00	
27)	Prior Period Adjustment , if any	0.00	
28)	Any other A&G expenses (Provide details)	1759.20	
20)	Sub-total(A&G Expenses)	27369.86	
	our-manaco Expenses)	2/307.00	
3.0	Employee Expenses		
1)	Salaries, wages and allowances	18612.60	
2)	Staff welfare expenses		
	a) Contribution to Provident and other funds	4810.73	
	b) Gratuity	53.05	
	c) Pension	171.15	
	d) Employee Medical Expenses	1521.25	
	e) Liveries and Uniforms	599.54	

## Details of Operation & Maintenance Expenses of Transmission O&M service (To be filled for each of the Transmission Region)

	ansmission Company:	Power Grid Corporation of India Limited
me of Tr	ansmission Region:	Eastern Region
	f) Safety & Appliances expenses	127.75
	g) Others	2412.72
3)	Productivity linked incentive	-
4)	Expenditure on VRS	-
5)	Ex-gratia	-
6)	Performance related pay (PRP)	5398.94
7)	Any other expenses	-
8)	Provisions (furnish details separately)	-
9)	Prior Period Adjustment , if any (furnish details separately)	-
10)	VII Pay Arrears Paid Pertaining to period prior to 2017-18	-
,	Sub-total(Employee Expenses)	33707.73
4.0	Additional /Specific Security it any on the advise of Govt. Agency/	
2.0	Statutory Authority/ any other reasons	-
5.0	Loss of store/Disposal/Write off	-
6.0	Provisions (other than above)	-
7.0	Prior Period Adjustment , if any (not covered above)	-
8.0	Corporate office expenses allocation	-
	(i) Transmission O&M Service	5935.20
	(ii) Projects under construction	-
	(iii) ULDC -Communication	_
	(iv) Consultancy services, if any	_
	(v) Other business (Telecom)	_
	(vi) Other business (if any)	_
9.0	Corporate Social Responsibility expenses	7417.91
10.0	- Others (Specify items not included above)	7417.91
10.0	Sub Total (1 to 10)	93494.30
11	Other Income, Revenue and Recoveries, if any	93494.30
	Short term open access (other than transmission service	-
a)		-
b)	System & Market operation charges Interest on differential tariff recovered	-
c)		-
<u>d)</u>	Consultancy Services	-
e)	Interest against Loans and advances	-
f)	Interest from advanced to contractors/suppliers	-
g)	Income from lease of assets	-
h)	Disposal of scrap/stores (not covered under capitalized assets)	-
i)	Interest on Government securities	-
j)	Miscellaneous income from operations	-
k)	Revenue/ Recoveries, if any	-
12	Net Expenses	93494.30
13	Capital spares consumed <b>not included in (A) (1) above and not claimed</b> /allowed by Commission for capitalization	Capital Spares not claimed/allowed by CI have been consumed as O&M Spares
13A	Expenses against Capital expenditure incurred for Operation and Maintenance of Transmission System (not included in Capital Cost/Repair & Maintenance expenditure indicated 1.0(1) above)	
14	Total Expenses (12) + (13A)	93494.30
-		
Note		
	I. The details of Corporate Expenses and the methodology of allocating activities and allocation of Corporate expenses pertaining to power gestations/ transmission region/system and stations/ transmission region.	neration/ transmission system to each operat
	specified in ANNEXURE-VIII as provided here separately  II. An annual increase in O&M expenses under a given head in excess of 1	10% percent should be explained

		Annexure VI- (B-1)	
	Details of Operation & Maintenance Expenses of Transm	ission O&M service	
	(To be filled for each of the Transmission R	egion)	
Name of Tra	ansmission Company:	Power Grid Corporation of India Limited	
Name of Transmission Region:		Eastern Region	
	III. The data should be based on audited balance sheets, duly reconciled an	d certified	
	IV. Employee cost should be excluding arrears paid for pay hike/prior per	iod adjustment / payment	
	IV. Details of arrears, if any, pertaining to period prior to the year 2017-18 s	should be mentioned separately	
	V. No. of employees opting for VRS during each year should be indicated		
	VI. Details of abnormal expenses, if any, shall be furnished separately		
	VII. Break-up of staff welfare expenses should be furnished		
	VIII. Details of Consumptive Water requirement, contracted quantum ar	nd actual water consumed with source, rate, etc.	
	should be furnished year-wise  IX. Details of capital spares consumed each year which were not claimed/allowed in the tariff should be furnished g		
	item wise unit price and quantity consumed		
Break Up of	other A & G Expenses (Indicated at 2 (28) above)		
Sr. No.	Item	2022-23	
1	Tax and Statutory Audit Fees	66.92	
2	EDP Expenses	251.54	
3	Miscellaneous Expenses	1504.48	
4	Bad Debts Expenses	-	
5	FERV Expense	-63.74	
	Total	1759.20	

Name of Transmission Company:		Power Grid Corporation of India Limited		
Name of Transmission Region:		Eastern Region		
Particulars	Year	Reasons of Variance		
Traveling and conveyance	2022-23	Increase in Employee movement due to relaxation of Covid Norms		
Advertisement and publicity	2022-23	Higher advertisement expenditure due to new projects		
Books Periodicals and Journals	2022-23	Nominal amount		
Research expenses	2022-23	Increase in research work		
Legal Expenses	2022-23	Legal cost due to arbitration cases		
Hiring of Vehicle (excluding construction & Corporate exp)	2022-23	Increase due to Fuel Cost & labour rate revisions time to time, etc.		
Training and Recruitment expenses	2022-23	Increase in offline trainings due to relaxation of Covid Norms		
Rebate to Customers	2022-23	Rebate allowed on timely basis by DICs as per actuals.		
Any other A&G expenses (Provide details)	2022-23	Increase due to increase in misc expenses and charging thereof		
Salary, wages and allowances	2022-23	Increase due to new recruitments/ inter regional transfer		

#### Annexure VI (B-II)

## DETAILS OF OPERATION AND MAINTENANCE EXPENSES OF COMMUNICATION SYSTEM (OTHER THAN TELECOM OR OTHER BUSINESS)

Name o	of Transmission Company:	Power Grid Corporation of India Limited
Name o	of Transmission Region:	Eastern Region
- 1011110	2	(Rs. In Lakhs)
Sr.No.	ITEM	2022-23
1.0	Repairs and Maintenance Expenses :	2022-23
1)	Repairs of Plant & Machinery	292.38
2)	Consumption of Stores (not capitalized)	77.60
3)	Consumption of Stores (not capitalized)  Consumption of Spares (not capitalized)	Included in 1.0 (1)
4)	Patrolling expenses	Included in natural heads of
<b>T</b> )	attorning experises	expenditure
5)	Power Charges (electricity consumed for repairing activity)	- capenditure
6)	Expenses of Diesel Generating sets	_
7)	Provisions	-
8)	Prior Period Adjustment , if any	_
9)	Other expenses, if any (please provide details)	_
- /	Sub-total (R&M Expenses)	369.98
2.0	Administrative & General Expenses:	309.90
1)	Insurance	_
2)	Security (General other than special)	
3)	Rent	0.02
4)	Electricity Charges	3.16
5)	Traveling and conveyance	8.39
6)	Communication expenses	1.11
7)	Advertisement and publicity	2.49
8)	Foundation laying and inauguration	-
9)	Books Periodicals and Journals	
10)	Research expenses	
11)	Cost Audit Fees	
12)	Horticulture Expenses	0.06
13)	Bandwidth charges dark fibre lease charges (Telecom) etc	44.28
14)	Donations expenses	-
15)	Entertainment expenses	-0.05
16)	Filing Fees	14.76
17)	Legal Expenses	-
18)	Consultancy Expenses	-
19)	Professional charges (not covered under employee expenses)	-
20)	Printing and Stationary	0.10
21)	Hiring of Vehicle (excluding construction & Corporate exp)	8.29
22)	Training and Recruitment expenses	0.90
23)	Rates and taxes	-
24)	Rebate to Customers	19.26
25)	Self Insurance Reserve	-
26)	Provisions (Provide details)	-
27)	Prior Period Adjustment , if any	-
28)	Any other A&G expenses (Provide details)	1.44
,	Sub-total(A&G Expenses)	104.19
2.0	Employee Eymonees	
3.0 1)	Employee Expenses Salaries, wages and allowances	131.63
1)	Dataties, wages and anowances	131.03

		Annexure VI (B-II)
	DETAILS OF OPERATION AND MAINTENANCE EXPENSES OF COMMUNI	CATION SYSTEM
	(OTHER THAN TELECOM OR OTHER BUSINESS)	
2)	Staff welfare expenses	8.02
۷)	a) Contribution to Provident and other funds	15.45
	b) Gratuity	0.16
	c) Pension	0.84
	d) Employee Medical Expenses	-0.98
	e) Liveries and Uniforms	3.74
	f) Safety & Appliances expenses	-
	g) Others	-
3)	Productivity linked incentive	_
4)	Expenditure on VRS	_
5)	Ex-gratia	_
6)	Performance related pay (PRP)	33.89
7)	Any other expenses	-
8)	Provisions (furnish details separately)	_
9)	Prior Period Adjustment , if any (furnish details separately)	_
10)	VII Pay Arrears Paid Pertaining to period prior to 2017-18	_
10)	Sub-total (Employee Expenses)	192.75
4.0	Additional /Specific Security it any on the advise of Govt. Agency/ Statutory	152.75
_,,	Authority/ any other reasons	-
5.0	Loss of store/Disposal/Write off	_
6.0	Provisions (other than above)	_
7.0	Prior Period Adjustment , if any (not covered above)	_
8.0	Corporate office expenses allocation	_
	(i) Transmission O&M Service	_
	(ii) Projects under construction	-
	(iii) ULDC -Communication	_
	(iv) Consultancy services, if any	-
	(v) Other business (Telecom)	-
	(vi) Other business (if any)	-
9.0	Corporate Social Responsibility expenses	-
10.0	- Others (Specify items not included above)	-
	Sub Total (1 to 10)	666.92
11	Other Income, Revenue and Recoveries, if any	-
a)	Short term open access (other than transmission service	-
b)	System & Market operation charges	-
c)	Interest on differential tariff recovered	-
d)	Consultancy Services	-
e)	Interest against Loans and advances	-
f)	Interest from advanced to contractors/suppliers	-
g)	Income from lease of assets	-
h)	Disposal of scrap/stores (not covered under capitalized assets)	-
i)	Interest on Government securities	-
j)	Miscellaneous income from operations	-
k)	Revenue/ Recoveries, if any	-
12	Net Expenses	666.92
13	Capital spares consumed not included in (A) (1) above and not claimed/allowed by	
	Commission for capitalization	claimed/allowed by CERC
		have been consmued as O&M

		Annexure VI (B-II)				
	DETAILS OF OPERATION AND MAINTENANCE EXPENSES OF COMMUNI	CATION SYSTEM				
	(OTHER THAN TELECOM OR OTHER BUSINESS)					
13A	Expenses against Capital expenditure incurred for Operation and Maintenance of					
	Transmission System (not included in Capital Cost/Repair & Maintenance	-				
	expenditure indicated 1.0(1) above)					
14	Total Expenses (12) + (13A)	666.92				
Notes:						
1 votes.	I. The details of Corporate Expenses and the methodology of allocation of corporate	e expenses to various functional				
	activities and allocation of Corporate expenses pertaining to power generation/ transr					
	stations/ transmission region/system and stations/ transmission region/system					
	clearly specified in ANNEXURE-VIII as provided here separately					
	II. An annual increase in O&M expenses under a given head in excess of 10% percent	should be explained				
	III. The data should be based on audited balance sheets, duly reconciled and certified	•				
	IV. Employee cost should be excluding arrears paid for pay hike/prior period adjustments	ent /payment				
	IV. Details of arrears, if any, pertaining to period prior to the year 2017-18 should be me	entioned separately				
	V. No. of employees opting for VRS during each year should be indicated					
	VI. Details of abnormal expenses, if any, shall be furnished separately					
	VII. Break-up of staff welfare expenses should be furnished					
	VIII. Details of Consumptive Water requirement, contracted quantum and actual water	consumed with source, rate, etc.				
	should be furnished year-wise					
	IX. Details of capital spares consumed each year which were not claimed/allowed i	in the tariff should be furnished				
	giving item wise unit price and quantity consumed.					
	p of other A & G Expenses (Indicated at 2 (28) above)					
Sr. No.		2022-23				
1	Tax and Statutory Audit Fees	0				
2	EDP Expenses	0				
3	Miscellaneous Expenses	1.44				
4	Bad Debts Expenses	0				
5	FERV Expense	0				
	Total	1.44				

		nation required from Transmission	
	Transmission Company: Power Grid Corporation of India		
ne of Tra	ansmission Region:	Eastern Region	1
	T-1-1-1 I (1- (1) - C T		
	Table-1 - Length (km) of Tra	nsmission Lines in Commercial Op Status as on	peration
		Status as off	1.4.2023
1	HVDC		1.1.2023
	a) S/C		0.00
	u) 5/ C		0.00
2	765 kV		
	a) S/C		1195.97
	b) D/C		591.60
	765 kV Charged at 400 KV		
	a) S/C		0.00
4	400.1 \$7		
	400 kV		2120.10
	a) S/C		2139.10
	b) D/C		7954.57 5.80
	a) D/C on M/C b) Multi Circuit		79.39
	b) Multi Circuit		79.39
5	400 kV Charged at 220 KV		
	a) D/C		0.00
	a) D/ C		0.00
6	220 kV		
	a) S/C		38.00
	b) D/C		821.46
7	Up to 132 kV		
	a) S/C		151.00
-	b) D/C		155.25
	Table-2-Ckt km	by Conductor Configuration	
		Type of Conductor	1.4.2023
1	Hexa	Zebra D/C	631.20
2	Quad	Bersimis S/C	1195.97
		Bersimis D/C	552.00
		Moose D/C	4563.99
		Moose M/C	181.56
		Moose D/C on M/C	7.49
3	Triple	Snowbird D/C	1213.54
4	Twin	Moose D/C	9731.82
		Moose S/C	2138.08
		Moose M/C	136.02
		Moose D/C on M/C	4.10
		Invar D/C	52.59

	Additional Degion spice Info	marting arraying I from Transmissi	Annexure
T 670		rmation required from Transmission	
	ransmission Company: ransmission Region:	Power Grid Corporation of	
vame of 11	ransmission Region:	Eastern Regi	
	-	Lapwing D/C	161.21
		Lapwing S/C	1.02
	0: 1	HTLS	185.60
5	Single	Moose D/C	0.39
		Zebra D/C	1642.93
	<u>_</u>	Zebra S/C	38.00
	<u> </u>	Panther S/C	114.00
		Panther D/C	308.00
		Dog D/C	2.50
		Dog S/C	37.00
	Grand T	Total Total	22899.02
	Table-3- Number of A	C Substations in Commercial Oper	ration
		Status as on	
			1.4.2023
1	765 kV		5
2	400 kV		29
3	220 kV		7
4	Up to 132 kV		1
	Table-4 - Number of Si	ub-station bays in Commercial Ope	eration
	Г	Status as on	4.4.0000
	TH/DC		1.4.2023
1	HVDC		56
2	765 kV		71
3	400 kV		494
4	220 kV		186
5	Up to 132 kV		61
	Table 5 Cost of	Outsourcing of Services (Rs. lakh)	
		tatus as on	2022-23
1		station O&M	7419.84
2		ines O&M	4336.08
3		Security	5463.19
		rand Total	21124.87
Table-	-6 - Total O&M Expenditure In	cluding RHQ, but Excluding HVD	C Stations (Rs lakh)
		ratus as on	2022-23
	1		91035.52
1		O&M	91055.52

	Annexure-X					
Name of Transmission Company:	Power Grid Corporation of India Limited					
Name of Transmission Region:	Eastern Region					
Station wise O&M Expenditure at HVDC Station (Rs. lakh)						
Particulars	2022-23					
Name of HVDC Station:	Sasaram					
i) No of Employees	33					
ii) A&G Expenses	379.36					
iii) Repairs & Maintenance	747.56					
Iv) Employee Expenses*	261.83					
v) Corporate expenses allocated*	Included in Annexure-VI (B-I)					
vi) Other income	0					
vii) Any other income	0					
Total Expenditure	1388.75					
Name of HVDC Station:	Alipurduar					
i) No of Employees	15					
ii) A&G Expenses	848.62					
iii) Repairs & Maintenance	776.68					
Iv) Employee Expenses*	333.67					
v) Corporate expenses allocated*	Included in Annexure-VI (B-I)					
vi) Other income	0					
vii) Any other income	0					
Total Expenditure	1958.98					
Name of HVDC Station:	Talcher					
i) No of Employees	22					
ii) A&G Expenses	766.02					
iii) Repairs & Maintenance	698.46					
Iv) Employee Expenses*	649.52					
v) Corporate expenses allocated*	Included in Annexure-VI (B-I)					
vi) Other income	0					
vii) Any other income	0					
Total Expenditure	2114.00					

#### Annexure-XI

Additional Region-wise Information required from Transmission Licensees (Communication System)					
Name of Transmission Company: Power Grid Corporation of India Limi					
Name of Transmission Region:	Eastern Region				
Table-1- Details of Communication system in	n Commercial Operation				
Particulars	Status as on				
1 articulais	1.04.2023				
OPGW Communication Links in operation(in Kms)	7543.59				
Number of wideband Communication nodes in operation	52				
Number of RTUs in operation	14				
Number of PLCC links in operation	0				
Number of PMUs in operation	300				
Number of Auxiliary Power Supply Nodes in operation	34				

Table-2- Cost of Outsourcing of Services (INR in lakhs)					
	2022-23				
Communication system O&M	338.46				
PLCC O&M	0				
RTU O&M	5.76				
Auxiliary Power Supply O&M	12.82				
Hiring charges of Bandwidth	39.94				
Security	1.58				
Others	0				
Total	398.56				

#### Annexure-XIIIC

# Auxiliary Consumption separately for 132kV, 220kV, 400kV & 765kV AC and HVDC Substation Separately

Name of Transmission Company:Power Grid Corporation of India LimitedName of Transmission Region:Eastern Region

vame or	Transmission Ke	gion:	Eastern Re	egion
S.no	Voltage level	Substations	2022-2	3
	O O		MU	%
1	220	Ara	0.416	-
2	400	Banka	0.749	-
3	400	Biharsharif	1.358	-
4	765	Gaya	1.073	-
5	400	Jamshedpur	0.936	-
6	400	Muzaffarpur	1.167	-
7	400	New Purnea	0.873	-
8	400	Patna	0.906	-
9	220	Purnea	0.420	-
10	400	Ranchi	1.027	-
11	765	New Ranchi	1.899	-
12	400	Lakhisrai	0.537	-
13	765	Pusauli	1.494	-
14	400	Chaibasa	0.506	-
15	400	Kishanganj	1.435	-
16	400	Chandwa	0.250	-
17	400	Daltonganj	0.434	-
18	HVDC	Sasaram Hvdc	4.482	-
19	400	Alipurduar	1.574	-
20	400	Subhasgram	0.683	-
21	400	Durgapur	0.884	-
22	400	Rajarhat	0.748	-
23	400	Malda	0.346	-
24	400	Rangpo	0.346	-
25	220	Birpara	0.352	-
26	220	New Melli	0.315	-
27	220	Dalkhola	0.232	-
28	400	Maithon	0.829	-
29	220	Siliguri	0.379	-
30	400	Binaguri	0.988	-
31	400	Berhampore	0.421	-
32	132	Gangtok	0.082	-
33	HVDC	Alipurduar Hvdc	4.721	-
34	765	Angul	0.938	-
35	400	Baripada	0.668	-
36	400	Bolangir	0.463	-
37	400	Indravati	0.252	-
38	400	Jeypore	1.631	-
39	400	Keonjhar	0.426	-

				Annexure-XIIIC
Aux	ciliary Consumpt	tion separately for 132kV, 220kV, 4	00kV & 765kV AC and HV	DC Substation
	_	<u>Separately</u>		
Name of	Transmission Co	ompany:	Power Grid Corporation	of India Limited
Name of	Transmission Re	egion:	Eastern Reg	gion
S.no	Voltage level	Substations	2022-23	}
			MU	0/0
40	400	Pandiabili	0.454	-
41	400	Rengali	0.539	-
42	400	Rourkela	1.436	-
43	765	Sundargarh	1.334	-
44	HVDC	Talcher Hydc	7.745	-

Annexure-XVI

Details of incidental Expenses During Construction (IEDC) including compensation, employee expenses and other expenses for assets achieving COD post 01.04.2017

	e of Transmission Company:	Power Grid Corporation of India Limited					
	e of Transmission Region:	Eastern Region					
Sl.	Name of Scheme	Sub-station	MVA/	Compensation	Employee	Administrative	Any other
No.		(S/s)/	Line	(Forest, crop,	Expenses	& General	expenses
		Transmission	Length	Tree, PTCC)		Expenses	
		Line (TL)	(km)				
1.	ERSS-IX	S/s			213.32	123.07	
2.	POWERGRID works associated with Transmission	S/s			148.35	18.27	
	System Strengthening in India System for Transfer of						
	Power from new HEPs in Bhutan						
3.	ERSS XI	S/s			0	876.25	
4.	Common scheme for 765 kV Pooling Stations and	S/s			27.18	24.59	
	ERSS - V	S/s			16.97	0.00	
	ERSS-VI	S/s			5.98	3.59	
	ERSS XIV	S/s			9.06	83.70	
	ERSS XVII, Part- A	S/s			0.00	65.08	
	ERSS XII	S/s			1149.81	233.13	
	ERSS-III	S/s			503.16	441.49	
	ERSS-III	TL			1295.71	1076.39	
	ERSS XVII, Part- B	S/s			0.00	89.78	
	ERSS-XX	S/s			503.73	292.76	
14.	SPLIT BUS ARRANGEMENT FOR VARIOUS SUB	S/s			42.52	4.22	
	STATIONS IN ER					_	
	SPLIT BUS ARRANGEMENT FOR VARIOUS SUB	TL			525.45	0	
	STATIONS IN ER						
16.	Associated Transmission System for Nabinagar-II	S/s			272.08	178.77	
	TPS (3X660 MV)						
17.	Associated Transmission System for Nabinagar-II	TL			1290.22	1188.49	
	TPS (3X660 MV)						
18.	Establishment of Communication system under	S/s			238.97	95.25	
	Expansion/ Upgradation of SCADA/ EMS System of	,					
	SLDCs of Eastern Region (BSPTCL & DVC) links						
19.	ERSS XVIII	S/s			775.09	390.21	
	ERSS XXIII	S/s			766.85	403.18	
	ERSS XXIII	TL			1382.62	726.94	
	ERSS-III	S/s			111.73	42.36	
	Transmission System associated with Darlipali TPS	S/s			6.50	1.83	
	Transmission System associated with Darlipali TPS	TL			63.45	17.84	
	ERSS XIV	S/s			45.14	17.37	
	ERSS XIV	S/s			26.86	12.86	
	ERSS XIV	S/s			13.86	6.62	
	Powergrid works associated with Common	S/s			40.53	13.49	
	Transmission System for Phase-II Generation Project	2, 5			10.00	10.17	
	in Odisha						
29.	Powergrid works associated with Common	S/s			9.13	1.25	
۷,	Transmission System for Phase-II Generation Project	5/ 5			7.13	1.25	
	,						
30.	in Odisha Powergrid works associated with Common	S/s			33.28	4.08	
50.	Transmission System for Phase-II Generation Project	3/5			33.40	4.00	
1	,						
21	in Odisha Powergrid works associated with Common	TL			200.21	25.62	
31.	0	IL			209.21	23.02	
1	Transmission System for Phase-II Generation Project						
22	in Odisha	C /			700.22	210.27	
32.	Powergrid works associated with Common	S/s			789.32	310.37	
1	Transmission System for Phase-II Generation Project						
	in Odisha	6.1			0.50	0.00.00	
33.	Common system associated with East Coast energy	S/s			367.94	263.32	
1	Pvt Ltd & NCC power projects Ltd LTOA generation						
	projects in Srikakulam area Par						
34.	Common system associated with East Coast energy	TL			2942.31	2105.72	
1	Pvt Ltd & NCC power projects Ltd LTOA generation						
	projects in Srikakulam area Par						
_				*			

Annexure-XVI

Details of incidental Expenses During Construction (IEDC) including compensation, employee expenses and other expenses for assets achieving COD post 01.04.2017

	e of Transmission Company:	Power Grid Corporation of India Limited					
	e of Transmission Region:	Eastern Region					
S1. No.	Name of Scheme	Sub-station (S/s)/ Transmission Line (TL)	MVA/ Line Length (km)	Compensation (Forest, crop, Tree, PTCC)	Employee Expenses	Administrative & General Expenses	Any other expenses
	Common system associated with East Coast energy Pvt Ltd & NCC power projects Ltd LTOA generation projects in Srikakulam area Par	S/s			54.43	39.41	
36.	Common system associated with East Coast energy Pvt Ltd & NCC power projects Ltd LTOA generation projects in Srikakulam area Par	TL			408.87	296.02	
37.	ERSS XI	S/s			188.82	109.32	
	ERSS XI	S/s			197.62	99.79	
	Powergrid works associated with TBCB Lines under Common Transmission System for Phase-II Generation Project in Odisha	S/s			138.52	198.76	
	ERSS-IX	S/s			29.91	8.78	
	ERSS-IX	S/s			14.44	2.08	
	ERSS XII	S/s			27.39	0.00	
	ERSS XII	S/s			32.64	0.00	
	ERSS XVII, Part- B	S/s			2.97	1.44	
	ERSS XVII, Part- B	S/s			14.00	6.81	
	ERSS XVII, Part- B	S/s			61.53	29.94	
	ERSS XVII, Part- B	S/s			14.80	7.20	
48.	ERSS XVII, Part- B	S/s			59.44	28.92	
49.	Communication system under Eastern Region Fibre Optic Expansion Project(Additional Requirement)	S/s			14.61	22.12	
	ERSS-V	S/s			9.84	29.37	
	SCADA	ULDC			5.58	3.10	
	SCADA	ULDC			3.64	1.68	
	SCADA	ULDC			1.22	0.76	
	SCADA	ULDC			0.33	0.27	
	ULDC replacement	ULDC			10.19	2.25	
	ERSS-VII	S/s			0.00	0.01	
	SCADA	ULDC			1.54	0.92	
	HVDC-Pole3&4	TL			78.80	42.99	
	HVDC-Pole3&4	TL			201.40	103.77	
	ERSS-IX	S/s			6.66	10.36	
61.	ERSS XIV	S/s			1.75	1.17	
62.	SCADA	ULDC			0.00	2.21	
	ERSS XV	S/s			0.40	0.74	
	ERSS XV	S/s			9.76	7.53	
	ULDC Expanssion (274)	ULDC			0.47	0.27	
	ULDC Expanssion (274)	ULDC			0.55	0.35	
	ERSS XIV	S/s S/s			21.42 3.07	23.99	
	ERSS XV ERSS XV	S/s TL			10.36	10.50	
	ERSS XV				4.13	1.88	
		S/s TL			31.43	28.20	
	ERSS XV				273.58	28.20 106.64	
	ERSS V ERSS V	S/s TL			44.67	17.15	
	ERSS V ERSS V	S/s			34.47	17.15	
	ERSS V	S/s S/s			34.47	13.27	
	ULDC MW Replacement	ULDC			11.53	7.98	
	URTDSM	ULDC			45.93	101.11	
	URTDSM	ULDC			5.24	11.52	
	ERSS XVII B	S/s			6.50	8.66	
	ERSS V	5/s S/s			116.76	59.55	
	ERSS V	5/s TL			962.83	695.27	
	ERSS XX	S/s			21.19	4.38	
	ERSS XX				28.48	6.30	
03.	ENJJ AA	S/s		1	20.40	0.30	<u> </u>

Annexure-XVI

Details of incidental Expenses During Construction (IEDC) including compensation, employee expenses and other expenses for assets achieving COD post 01.04.2017

Name	e of Transmission Company:	Power Grid Corporation of India Limited							
Name	e of Transmission Region:	Eastern Region							
Sl.	Name of Scheme	Sub-station	MVA/	Compensation	Employee	Administrative	Any other		
No.		(S/s)/	Line	(Forest, crop,	Expenses	& General	expenses		
		Transmission	Length	Tree, PTCC)	_	Expenses	_		
		Line (TL)	(km)	,		-			
84.	ULDC Expanssion (274)	ULDC			0.87	0.37			
85.	Development of pooling station in Northern part of	TL			620.63	316.31			
	W.B. and transfer of power from Bhutan to NR/WR								
	ERSS V	S/s			48.38	15.18			
	ERSS V	S/s			871.51	551.05			
	ERSS V	TL			1867.93	593.47			
	ERSS XX	S/s			83.63	17.40			
	ERSS XX	S/s			29.12	45.53			
	ERSS XX	TL			367.93	575.21			
	ERSS XVII-B	S/s			197.22	4.92			
	ULDC expansion 274	ULDC			11.18	0.64			
94.	ERSS XV	S/s			86.07	-2.92			
	ERSS XV	TL			9.39	-0.31			
	Mangdechu-390	TL			377.95	542.29			
	ERSS XVII-B	S/s			210.67	93.72			
	ERSS XVII-B	S/s			156.45	65.59			
	ERSS XX	S/s			22.80	424.83			
	ERSS XXIII	TL			18.20	261.32			
	ERSS XXIII	S/s			7.14	102.48			
	Sikkim-B1 (477)	TL			116.30	922.68			
	SKMB-257	S/s			34.89	5.32			
104.	Baharampur (POWERGRID)- Bheramara (Bangladesh) 2nd 400 KV D/C Line and Associated	TL			167.28	499.72			
	line bays at Baharampur Sub Station								
	Baharampur (POWERGRID)- Bheramara (Bangladesh) 2nd 400 KV D/C Line and Associated line bays at Baharampur Sub Station	S/s			14.83	44.3			
106.	ERSS XII	S/s			10.49	13.79			
	ERSS-XVIII	S/s			99.26	71.82			
108.	ERSS-XXIV	S/s			34.38	34.90			
109.	"Provision of Spare ICT's in Eastern Region "	S/s			11.27	21.33			

		Details of Capital	Cost of Transmiss	sion Line	<u>:</u>	Annexure-XVI		
Name of	Transmis	sion Company:		rid Corporation of India Limited				
Name of Transmission Region:			Eastern Region					
SI. No.	Year	Configuration	Length (km)	<b>Total Cost</b>	Cost/km	Cost/ckt-km		
1	2022-23	HVDC				•		
		a) S/C	0.00					
		765 kV						
		a) S/C	0.00	1				
		b) D/C	0.00					
		765 kV Charged at 400 KV	+					
		a) S/C	0.00					
		400 kV	+					
		a) S/C	0.00	D	ata separatel	y not		
		b) D/C	39.00		ailable/maint			
		400 kV Charged at 220 KV						
		a) D/C	0.00					
		220 kV						
		a) S/C	0.00	1				
		b) D/C	0.00					
		Up to 132 kV						
		a) S/C	0.00					
		b) D/C	0.00					

						Anı	nexure-XVII	
		Details o	of Capital Cost	of Transmis	ssion Line			
Name of Transmission Company:			Power Grid Corporation of India Limited					
Name of Transmission Region:			Eastern Region					
SI No.	Year	Configuration	MVA	No. of	Total	Cost/MVA	Cost/bays	
		_	Capacity	Bays	Cost		-	
1	2022-23	765kV		0		•		
		400kV	815	9	] ,	Data consentale	anntaly not	
		220kV		2	Data separately not available/maintained			
		132kV		0	avanable/maintaineu		inea	
		HVDC		0	]			