

Annexure-II

Pro-forma for furnishing Actual annual performance/operational data for the Gas/Liquid Fuel based thermal generating stations for the 5 year period from 2017-18 to 2021-22

	Particulars	Units	2017-18	2018-19	2019-20	2020-21	2021-22
1	Name of Company		North Eastern Electric Power Corporation Limited (NEEPCO LTD.)				
2	Name of Station		Tripura Gas Based Power Station (TGBPS)				
3	Installed Capacity and Configuration	MW	101 MW (1 X 65.42 MW + 1 X 35.58 MW) Combine Cycle Gas Based				
	Stage						
3.1	Date of Commercial Operation - Unit Wise	GTG-1	24.12.2015				
		STG-1	31.03.2017				
3.2	Effective COD		31.03.2017				
4	Make of Turbine		Make of GTG - M/s GE and make of STG - M/s BHEL				
5	Rated Steam Parameters		103 kg/sq.cm, 540 deg C				
6	Average site ambient conditions		Average temperature 24.8 °C 76.7 °F, Average rainfall 1991 mm 78.4 inch per				
7	Any other Site specific feature		High humidity				
8	Fuels :						
8.1	Main/Primary Fuel		Natural Gas				
8.1.1	Annual Allocation/ Requirement	MMSCMD	Allocation 0.5 MMSCMD				
8.1.2	Sources of supply		M/s ONGC Khedabari GGS				
8.1.3	Transportation Distance of the station from the Sources of supply	KM	11				
8.1.4	Mode of Transport		Pipeline				
8.2	Alternate Fuel :						
8.2.1	Annual Allocation/ Requirement	Million Cubic meter or MT or Kilo Litre	NA				
8.2.2	Sources of supply		NA				
8.2.3	Transportation Distance of the station from the Sources of supply	KM	NA				
8.2.4	Mode of Transport		NA				
8.2.5	Maximum Station capability to stock secondary fuels	KL	NA				
9	Cost of Spares :						
9.1	Cost of Spares capitalized in the books	(Rs. Lakhs)	49.345	2687.2911	414.77801	7698.838126	1051.326504
9.2	Cost of spares included in capital cost for the purpose of tariff	(Rs. Lakhs)					
10	Generation :						
10.1	Actual Gross Generation at generator terminals	MU	670.832	681.268	713.458	532.669	717.962
10.1.1	Total	MU					
10.1.2	On Gas	MU	670.832	681.268	713.458	532.669	717.962
10.1.3	On Naphtha or any other liquid fuel	MU	NA	NA	NA	NA	NA
10.2	-Actual Net Generation Ex-bus	MU	647.7866	656.532	686.368	508.996	692.947
10.3	-Scheduled Generation Ex-bus	MU	639.91135	649.09745	683.55475	507.9334	695.95015
11	Average Declared Capacity (DC)	MW	77.6	77.3	85.5	61.8	82.4
12	Actual Auxiliary Energy Consumption excluding colony consumption & agency power	MU	29.5039	28.9468	27.663	23.48807	24.4268
13	Actual Energy supplied to Colony from the station and Agency Power	MU	0.362	0.4136	0.475134	0.36988	0.61783
14	Main/Primary Fuel :						
14.1	Consumption	MMSCM					

14.1.1	Natural Gas	APM Gas	MMSCM	147.206327	146.25809	153.723352	126.260541	158.816917
		Non-APM Gas	SCM					
14.1.2	RLNG		SCM					
14.1.3	Liquid Fuel		KL					
14.2	Weighted Gross Calorific Value (GCV)							
14.2.1	Natural Gas (as received)		kCal/SCM	9197.55	9174.73	9168.04	9140.61	9156.57
14.2.2	RLNG (as received)		kCal/SCM	NA	NA	NA	NA	NA
14.2.3	Liquid fuel (as received)		kCal/Lt.	NA	NA	NA	NA	NA
14.3	Weighted Average Landed Price							
14.3.1	APM Gas		Rs. /1000 SCM	7709.753	8129.805	8687.598	9288.165	9706.767
14.3.2	Non-APM Gas		Rs. /1000 SCM					
14.3.3	RLNG		Rs. /1000 SCM	NA	NA	NA	NA	NA
14.3.4	Liquid Fuel		Rs./KL	NA	NA	NA	NA	NA
14.4	Percentage of Declared Capacity							
14.4.1	APM Gas		%	NA	NA	NA	NA	NA
14.4.2	Non-APM Gas		%	NA	NA	NA	NA	NA
14.4.3	RLNG		%	NA	NA	NA	NA	NA
14.4.4	Liquid Fuel		%	NA	NA	NA	NA	NA
14.5	Actual Average stock maintained for liquid fuel			(KL)	NA	NA	NA	NA
15	Alternate Fuel : RLNG/Liquid			NA	NA	NA	NA	NA
15.1	Consumption		KL/SCM	NA	NA	NA	NA	NA
	Weighted Average Gross Calorific		(kCal /Lt. or SCM)	NA	NA	NA	NA	NA
	Weighted Average Landed Price		(Rs per KL/SCM)	NA	NA	NA	NA	NA
15.3	Actual Average stock		KL	NA	NA	NA	NA	NA
16	Weighted average duration of outages(Unit-wise details)							
16.1	Planned Outages	GTG	(Days)	2.8	25.9	4.9	25.7	16.5
		STG	(Days)	2.8	32.7	5.2	30.1	27.6
16.2	Forced Outages	GTG	(Days)	15.2	4.8	5.9	6.4	13.8
		STG	(Days)	30.9	11.4	19.4	60.2	25.4
16.3	Number of tripping	GTG	Nos.	57	35	38	33	62
		STG	Nos.	75	58	59	35	55
16.4	Number of start-ups		Nos.	166	103	74	49	142
16.4.1	Cold Start-up		Nos.	9	3	4	4	7
16.4.2	Warm Start-up		Nos.	42	16	19	9	79
16.4.3	Hot start-up		Nos.	115	84	51	36	56
17	Cost of spares consumed		Rs. Lakhs					
18	Average stock of spares		Rs. Lakhs					
19.	NOx and other particulate matter							
19.1	Design value		mg/Nm ³					
19.2	Actual emission		mg/Nm ³	10.59	11.12	20.13	19.1	21.38
20	Number of employees deployed in							
20.1	- Executive		Nos.	43	39	38	30	26
20.2	- Non Executive		Nos.	36	33	33	32	27
20.3	Corporate Office		Nos.	30	28	27	18	16
21	Man-MW ratio		Man/MW	1.08358876	0.987408006	0.968584573	0.78790125	0.683235703

Notes:

1. List of beneficiaries/customers along with allocation by GoI including (allocation of unallocated share) / capacity as contracted shall also be furnished separately.
2. In case of two or more alternate fuels, information should be furnished for each of the alternate fuel. Gross generation on generator terminal for different fuel may be based on estimates.
3. In case of two or more stages or two or more unit sizes, information should be furnished separately to the extent possible.
4. A brief write-up on the methodology to arrive at the performance & operation parameters should also be furnished.
5. Any relevant point or a specific fact having bearing on above performance or operating parameters may also be highlighted or brought to the notice of the Commission.
6. If RLNG , Non APM gas or Liquid fuel is alternate fuel then details should be given under head Alternate fuel.
7. The declared capacity for peak and off peak period should be given separately for high and low demand season as per respective RLDC.

Annexure –IV

PLANT AVAILABILITY/SCHEDULED PLANT LOAD FACTOR ACHIEVED

Generating company: North Eastern Electric Power Corporation Limited (NEEPCO LTD.)

Name of Generating station: Tripura Gas Based Power Station (TGBPS)

Installed Capacity (MW) : 101

Normative Annual Plant Availability Factor (%) approved by Commission : 85.00

Plant Availability Factor Achieved (%)

Month	2017-18	2018-19	2019-20	2020-21	2021-22	Reasons for shortfall in PAF achieved vis-a-vis NAPAF
April	89.76	78.57	82.57	67.49	76.03	Less availability of Gas.
May	83.61	75.26	87.95	59.90	96.99	Less availability of Gas.
June	89.08	76.34	85.63	53.81	97.10	Less availability of Gas.
July	87.78	61.80	87.96	34.82	84.96	Less availability of Gas.
August	90.33	56.58	89.32	36.46	88.54	Less availability of Gas.
September	81.85	88.43	84.18	42.33	80.34	Less availability of Gas.
October	75.12	90.64	90.23	30.87	90.19	Less availability of Gas.
November	79.79	89.41	91.32	78.94	92.06	Less availability of Gas.
December	71.23	89.81	97.43	65.92	58.21	Less availability of Gas.
January	53.32	59.02	64.12	95.11	73.27	Less availability of Gas.
February	78.64	93.59	94.41	103.10	85.49	Less availability of Gas.
March	75.88	93.68	95.48	94.32	89.73	Less availability of Gas.
Annual	79.65	79.27	87.53	63.30	84.38	

Plant Load Factor Achieved (%)

Month	2017-18	2018-19	2019-20	2020-21	2021-22	Reasons for shortfall in PLF achieved vis-a-vis Target PLF
April	79.48	72.20	75.85	63.13	74.87	Less availability of Gas, URS.
May	76.05	73.66	72.98	59.45	92.39	Less availability of Gas, URS.
June	83.61	76.82	78.07	54.97	91.55	Less availability of Gas, URS.

July	83.20	62.16	74.39	35.66	81.24	Less availability of Gas, URS.
August	79.19	54.26	76.86	37.37	85.13	Less availability of Gas, URS.
September	78.23	81.90	72.02	42.76	74.58	Less availability of Gas, URS.
October	71.51	87.62	84.68	30.33	83.56	Less availability of Gas, URS.
November	79.96	88.52	88.76	72.74	91.23	Less availability of Gas, URS.
December	70.41	88.52	95.65	63.89	57.85	Less availability of Gas, URS.
January	53.90	58.19	64.23	85.15	71.66	Less availability of Gas, URS.
February	79.86	93.16	89.39	88.58	82.37	Less availability of Gas, URS.
March	75.44	88.93	92.51	90.94	87.70	Less availability of Gas, URS.
Annual	75.82	77.00	80.42	60.20	81.15	Less availability of Gas, URS.

Annexure-VI (C)**DETAILS OF WATER CHARGES****Name of the Company:**

North Eastern Electric Power Corporation Limited (NEEPCO LTD.)

Name of the Power Station and Stage/Phase:

Tripura Gas Based Power Station (TGBPS)

(Rs. In Lakhs)

Sl.No.	ITEM	2017-18	2018-19	2019-20	2020-21	2021-22
1	2	3	4	5	6	7
(A)	Plant	Tripura Gas Based Power Station (TGBPS)				
1	Type of Plant	Gas Based Combine Cycle Power Plant				
2	Type of Cooling Tower	Forced circulation, counter-flow with Shell and Tube type surface condenser				
3	Type of Cooling Water System	Closed colling water module				
4	Any Special Features which may increase/reduce water consumption	3 numbers of Hydro-press units installed for recovery of sludge water form the				
(B)	Quantum of Water : (Cubic Meter)					
5	Contracted Quantum	Nil	Nil	Nil	Nil	Nil
6	Allocation of Water	Nil	Nil	Nil	Nil	Nil
7	Actual water Consumption	570376.8	578621.0	574764.1	529891.2	684531.5
8.	Rate of Water Charges	0.05	0.05	0.05	0.05	0.05
9	Other charges/Fees , if paid as part of Water Charges	28518.84	28931.05	28738.206	26494.56	34226.575
	Total water Charges Paid	28518.84	28931.05	28738.206	26494.56	34226.575

Note:

Any abnormal increase in Water consumption & water Charges on any year shall be explained separately

Annexure VI (D)

DETAILS OF OPERATIONS AND MAINTENANCE EXPENSES

Name of the Company: North Eastern Electric Power Corporation Limited (NEEPCO LTD.)

Name of the Power Station or Transmission Region: Tripura Gas Based Power Station (TGBPS)

(Rs. In Lakhs)

Sl. No.	ITEM	2017-18	2018-19	2019-20	2020-21	2021-22
1	2	3	4	5	6	7
(A)	Details of Capital Spares in opening Stock (Opening Capital Spares)					
1	Gas Booster	26.23	7.869	7.0689	0.70689	0.070689
2	Gas Turbine	4.14	7.746	0	7662.6145	404.251725
3	Steam Turbine	0.45	0.45	7.315	24.8845	7.46535
4	Sub Total	30.82	16.065	14.3839	7688.20589	411.787764
	...					
(B)	Details of Capital Spares procured during the year					
1	Spares of Gas Booster	0	62.82	0	0	0
2	Spares of Gas Turbine	34.59	2615.61	8065.91	422.42	696.84
3	Spares of stem Turbine	0	7.18	22.69	0	15.36
4	Sub Total	34.59	2685.61	8088.6	422.42	712.2
	...					
(C)	Details of capital spares consumed during the year					
1	Spares of Gas Booster	18.361	63.6201	6.36201	0.636201	0.0636201
2	Spares of Gas Turbine	30.984	2623.356	403.2955	7680.782775	1046.037139
3	Spares of stem Turbine	0	0.315	5.1205	17.41915	5.225745
4	Sub Total	49.345	2687.2911	414.77801	7698.838126	1051.326504
	...					
(D)	Details of capital spares closing at the end of the year 2021-22					
1	Spares of Gas Booster	-	-	-	-	0.0070689
2	Spares of Gas Turbine	-	-	-	-	55.05458625
3	Spares of stem Turbine	-	-	-	-	17.599605
4	Sub Total	-	-	-	-	72.66126015

Details of actual O&M expenses (Common for Hydro /Thermal Generating Station) TGBP

Sl. No.	Item	Unit	2017-18	2018-19	2019-20	2020-21	2021-22
1	Consumption of stores & spares		151.22	111.42	124.49	246.52	136.27
2	Repair & Maintenance		212.32	350.82	503.17	856.67	515.89
3	Insurance		113.45	91.75	156.08	330.67	341.7
4	Security		98.87	95.84	124.31	95.86	87.21
4.1	CISF						
4.2	Other than CISF						
5	Water Charges						
6	Administrative Expenses						
6.1	Energy conservation /Environmental expenses		59.12	22.67	25.21	22.76	27.79
6.2	Electricity charges/ duty						
6.3	Travelling & Conveyance		27.94	28.65	18.37	9.07	14.44
6.4	Communication Expenses		7.7	11.83	2.02	14.14	6.61
6.5	Advertising		15.96	4.5	3.4	4.2	0
6.6	Foundation Laying & Inauguration						
6.7	Donation						
6.8	Entertainment						
6.9	Filing fee		5.02	4.25	4.44	4.84	4.44
	Subtotal (Administrative Expenses)		691.6	721.73	961.49	1584.73	1134.35
7	Employee Cost						
7.1.1	Salaries, Wages & Allowances						
7.1.1.1	Salaries, Wages & Allowances (including loco pilots and man power associated with stone and metal picking charges and water pumping)						
7.1.1.2	Salaries, Wages & Allowances (Excluding loco pilots and man power associated with stone and metal picking charges and water pumping)		1197.16	1509.33	1286.09	1215.14	1223.53
7.1.1.3	Loco pilots						
7.1.1.4	Stone and metal picking						
7.1.1.5	Water pumping						
7.1.2	Pension		69.97	79.7	79.32	75.34	11.5
7.1.3	Gratuity		342.61	61.95	38.15	37.59	32.69
7.1.4	Provident Fund		108.34	116.76	115.6	107.68	102.26
7.1.5	Leave Encashment		202.01	133.72	177.48	85.77	71.69
7.2	Staff welfare expenses/Compensation		2.19	1.86	4.07	5.09	0.39
7.2.1	Medical expenses on superannuated employees						
7.2.2	Medical expenses on regular employees & others		44.95	56.91	64.98	35.13	62.34
7.2.3	Uniform/Livries & safety equipment		0.14	0.05	0.15	0	0.98
7.2.4	Canteen expenses						
7.2.5	Social welfare expenses		0.16	2.14	0.89	0.51	0.49
	Subtotal (Staff welfare Expenses)		1967.53	1962.42	1766.73	1562.25	1505.87
7.3	Productivity linked Incentive		55.29	9.27	0	1.91	25.68
7.4	Expenditure on VRS						
7.5	Ex-gratia						
7.6	Performance Related Pay (PRP)						
	Sub Total (Employee Cost)		55.29	9.27	0	1.91	25.68
8	Loss of Store/stock writte off			0.56			72.12
9	Provisions						
10	Prior Period Expenses/ CSR						
11	Corporate Office expenses allocation						
12	Others						
12.1	Rates & Taxes		0.33	0.54	0.31	0.3	0.12
12.2	Water cess						
12.3	Training & recruitment expenses/stipend		5.91	7.55	11.96	11.83	4.14
12.4	Tender Expenses						
12.5	Guest house expenses		2.93	2.97	3.71	1.07	0.24
12.6	Education expenses/Swachh Bharat		8.93	0.79	0.51		
12.7	Community Development Expenses						
12.7.1	CSR activities		32.89	2.05	24.94	63.7	18.05
12.8	Ash utilisation expenses						
12.9	Books & Periodicals						
12.1	Professional Charges						
12.11	Legal expenses/Licence fees		5.24	5.66	9.34	5.69	7.36
12.12	EDP Expenses		4.15	4.52	1.4	2.44	21.71
12.13	Printing & Stationery		2.28	2.73	1.69	1.7	1.62
12.14	RLDC Fee & Charges						
12.15	Brokerage & Commission						
12.16	Bank charges		2.74	3.67	6.36	1.75	3.36
12.17	Claims/advances written off						
12.18	Hiring of vehicle		37.94	68.33	72.38	87.66	76.42

12.19	Payment to auditors		0.35	0.86	0.63		
12.2	Misc. Expenses						
	(Break-up Of Misc.)						
12.20.1	Horticulture						
12.20.2	Transport- Vehicle Running exp.						
12.20.3	Hire charges & Operating Exp -Construction equipment						
12.20.4	Tree Plantation exp.						
12.20.5	R&D expenses						
12.20.6	Other Vehicles						
12.20.7	Consumption-HSD/LDO-(Ind/Imp)-DG Set						
12.20.8	Exp/ Inc from Inv Diff						
12.20.9	Loss on sale of Investments						
12.20.10	Operating exp of diesel generating sets						
12.20.11	Furnishing Expenses						
12.20.12	Subscription to Trade and Other Association						
12.20.13	Hire Charges - Helicopter/Aircraft						
12.20.14	Visa & Entry Permit Charges - Overseas						
12.20.15	FX Monitoring Terminal Expenses						
12.20.16	Works/Conf.(Excl train R&D CENPEEP)Earlier Non FBT						
12.20.17	Workshop/Conf. Exp (train R&D CENPEEP) Earlier FBT						
12.20.18	Hire charges - Office equipment						
12.20.19	Payment for health club etc						
12.20.20	Gifts liable for Fringe Benefit Tax						
12.20.21	Festival expenses liable Earlier (FBT)						
12.20.22	Miscellaneous Expenses		15.94	13.48	18.4	6.56	13.6
12.20.23	Rounding Off Difference						
12.20.24	Regional Power Committee Expenses						
12.20.25	Misc Exp. trf to CSR and IEDC						
12.20.26	Specify other sub head, if any.						
	Sub Total (Others)		119.63	113.15	151.63	182.7	146.62
13	(Total 1 to 12)		2834.05	2806.57	2879.9	3331.59	2812.52
14	Revenue / Recoveries		7.39	10.65	49.21	4.65	3.06
15	Net Expenses		2826.66	2795.92	2830.64	3326.94	2809.46
	Total O&M Cost		2826.66	2795.92	2830.64	3326.94	2809.46

(g) Special Allowance																			
h) Supplementary Tariff - Emission																			
Absolute value	(Rs. Crore)																		
Rate	(%)																		
i) Ash Utilisation Expenses	(Rs. Crore)																		
AFC	(Rs./ kWh)																		
Energy Charge	(Rs./kWh)												3.416185	7.013531	3.189864	3.15986452	2.8029942	3.75066889	2.68614067
Supplemental Energy Charges - Emission Control	(Rs./kWh)												4.751	3.691	3.935	1.788	2.41	2.981	2.562
Total tariff	(Rs. kWh)												4.751	3.691	3.935	4.378	4.56	5.035	4.732
Revenue realisation before tax	(Rs. Crore)																		
Revenue realisation after tax	(Rs. Crore)																		
Profit/ loss	(Rs. Crore)																		
DSM Generation	(MU)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DSM Rate	(Rs/kWh)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Revenue from DSM	(Rs. Crore)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Compensation received for operation below NAPAF																			
Part load Compensation received from beneficiariaes																			
Amount received from SCED	(Rs Crore)																		

Generating Companies are required to submit data for all generating stations
This is a general format. Plants of different fuel users have to fill the cells as applicable to them.
Tariff for the Hydro may be understood as composite tariff.
The data provided for the corresponding years need to mention as Actual or provisional.
Data for each Unit and Stage is required to be submitted in additional sheets as per the format

DETAILS OF EMISSION CONTROL SYSTEM

Generating company: NEEPCO LTD.
Name of Generating station: Tripura Gas Based Power Station (TGBPS)
Installed Capacity (MW) : 101
Type of Emission Control System:
Under Operation/Anticipated Operation Date:

S.No.	Particulars	Units	2017-18	2018-19	2019-20	2020-21	2021-22
A							
1	Gross Generation	MU	670.832	681.268	713.458	532.669	717.962
2	Auxiliary Consumption - emission control	MU	29.5039	28.9468	27.663	23.48807	24.4268
	Auxiliary Consumption - emission control	%	4.40	4.25	3.88	4.41	3.40
3	Auxiliary Consumption (Normative)	%	2.5	3.5	3.3	3.3	3.3
4	Hours of Operation (Two Units)	Hrs	15256:47	15407:10	16462:51	14513:11	15421:18
5	O&M Expenses (Actual) with Breakup as per format	Rs. Crore					
6	Other maintenace spares consumed^	Rs. Crore					
7	Initial Spares consumed*	Rs. Crore					

Pls. Note: Where the system is yet not operational guaranteed parameter along with spares cost as per awarded contract to be furnished

* Not part of O&M expenses and Pls specify list of the same

S.No.	Particulars	Units	2017-18		2018-19		2019-20		2020-21		2021-22	
			Investment Approval	Approved*	Investment Approval	Approved*	Investment Approval	Approved*	Investment Approval	Approved*	Investment Approval	Approved*
1	Capital Cost of Emission Control System											
1.1	Hard Cost	Rs. Crore										
1.1.1	Civil Works	Rs. Crore										
1.1.2	Plant and Machinery and others	Rs. Crore										
1.1.3	Initial Spares procured	Rs. Crore										
1.2	IDC	Rs. Crore										
1.3	IEDC	Rs. Crore										
1.4	Others. Pls specify	Rs. Crore										
1.4	Completed Cost	Rs. Crore										

* Wherever cost is yet to be approved by CERC and for which petition has been filed the actual claimed shall be submitted.

* Where the work is still under execution utility to submit the details of awarded cost