

## ANNEXURE-II

Pro-forma furnishing Actual annual performance/operational data for the Gas/ Liquid fuel based thermal generating stations for the 5 year period from 2012-13 to 2016-17

	Particulars	Units	2012-13	2013-14	2014-15	2015-16	2016-17
1	<b>Name of Company</b>		<b>NTPC Ltd.</b>				
2	<b>Name of Station</b>		<b>Auraiya Gas Power Station</b>				
3	<b>Installed Capacity and Configuration</b>	MW	663.36MW (4GT X 111.19MW+2ST X 109.3MW)				
4	<b>Make of Turbine</b>		MHI Japan				
5	<b>Rated Steam Parameters</b>		HP Steam 60.3 Bar (abs), 493 °C, LP Steam 6.0 Bar(abs) , 158.3°C				
6	<b>Average site ambient conditions</b>		For FY 16-17 Av. Ambient temp. 28.30 °C, Pressure 741.69 MM Hg, Relative Humidity 60.19 %				
7	<b>Any other Site specific feature</b>						
8	<b>Fuels:</b>						
8.1	Main/Primary Fuel		Natural Gas/RLNG				
8.1.1	Annual Allocation (MMSCMD)	Dom. Gas	1.21	1.11	1	0.92	0.35
		RLNG	0.9	2.06	2.04	2.29	0.95
		Total	2.11	3.17	3.04	3.21	1.3
8.1.2	Sources of Supply		GAIL				
8.1.3	Transportation Distance of the station from the sources of supply	Km	1200 (GAIL HVJ/DVPL pipeline Zone-4)				
8.1.4	Mode of Transport		Pipeline				
8.1.5	Maximum Station capability to stock main/primary fuel	Million Cubic meter or MT or Kilo Litre	N/A				
8.2	<b>Alternate Fuel:</b>		Naphtha				
8.2.1	Annual Allocation/ Requirement	Million Cubic meter or MT or Kilo Litre	N/A				
8.2.2	Sources of Supply		HPCL Vizag				
8.2.3	Transportation Distance of the station from the sources of supply	Km	1600				
8.2.4	Mode of Transport		Road				

	Particulars	Units	2012-13	2013-14	2014-15	2015-16	2016-17
8.2.5	Maximum Station capability to stock secondary fuels	Kilo Litre	3000				
9	<b>Cost of Spares :</b>						
9.1	<b>Cost of Spares capitalized in the books</b>	(Rs. Lakhs)	2512.39	959.81	1731.49	3144.33	742.92
9.2	<b>Cost of spares included in capital cost for the purpose of tariff</b>	(Rs. Lakhs)	0	0	0	0	0
<b>10</b>	<b>Generation</b>						
10.1	<b>Actual Gross Generation at generator terminals</b>	MU	2774.83	1792.07	1664.08	1511.33	535.69
10.1.1	<b>Total</b>	MU	2774.83	1792.07	1664.08	1511.33	535.69
10.1.2	<b>On Gas</b>	MU	2773.28	1791.58	1658.57	1510.02	535.69
10.1.3	<b>On Naptha or any other fuel</b>	MU	1.55	0.49	5.51	1.31	0
10.2	<b>Actual Net Generation Ex-bus</b>	MU	2692.7	1730.11	1606.77	1464.85	509.42
10.3	<b>Scheduled Generation Ex-bus</b>	MU	2732.75	1756.69	1637.25	1508.8	535.42
11	<b>Average Declared Capacity (DC)</b>	MW	589.16	631.35	572.28	633.34	630.46
12	<b>Actual Auxiliary Energy Consumption excluding colony consumption &amp; agency power</b>	MU	78.1	58.05	53.42	43.24	23.16
13	<b>Actual Energy supplied to Colony from the station &amp; Agency Power</b>	MU	4.03	3.91	3.89	3.24	3.11
<b>14</b>	<b>Main / Primary Fuel:</b>						
<b>14.1</b>	<b>Consumption :</b>	MCM/MT/ KI	496.477	435.502	374.407	219.162	158.396
14.1.1	<b>Natural Gas : APM Gas</b>	SCM	438.108	384.669	354.008	330.75	125.012
	<b>Non-APM Gas</b>	SCM					
14.1.2	<b>RLNG</b>		198.105	25.409	29.052	10.876	0.015
14.1.3	<b>Liquid Fuel</b>	KL	431.4	132.7	1642.1	358.6	0
<b>14.2</b>	<b>Weighted Gross Calorific Value (GCV)</b>						
14.2.1	<b>Natural Gas (As recieved)</b>	kcal/scm	9188	9100.63	9152.37	9384.276	9187.02
14.2.2	<b>RLNG/ E-RLNG (As recieved)</b>	kcal/scm	9150.09	9085.53	9121.57	9158.547/ 9306.67	9101.66
14.2.3	<b>Liquid Fuel (As recieved)</b>	kcal/Lt	7736.44	7735.58	7733.7	7733.68	0
14.3	<b>Weighted Average Landed Price</b>	(Rs per 1000 SCM)	53362.8	54886.7	54861.7	54866.7	41387.6
14.3.1	<b>APM</b>	(Rs per 1000 SCM)	11864.39	13527.43	15,492.79	16,672	14,073
14.3.2	<b>Non-APM</b>	(Rs per 1000 SCM)					

	Particulars	Units	2012-13	2013-14	2014-15	2015-16	2016-17
14.3.3	RLNG / E-RLNG	(Rs per 1000 SCM)	36063.52	39639.14	46,931.50	32293/23316	24,824
14.3.4	Liquid Fuel	(Rs per 1000 SCM)	53362.8	54886.7	54861.7	54866.7	41387.6
14.4	Percentage of Declared Capacity	%					
14.4.1	APM Gas+PMT + NON APM GAS	%					
14.4.2	NON APM	%	36.11	34.79	34.93	37.16	11.88
14.4.3	RLNG	%	52.64	63.09	53.41	59.72	25.82
14.4.4	Liquid Fuel	%	2.8	0.23	0.14	0.02	59.78
14.4	Actual Average stock maintained		1651.16	1517.06	873.8	303.9	1490.4
15	Alternate Fuel:(RLNG/Liquid)						
15.1	Consumption	MT/ KL	268.48	9.74	0	10.5	0
15.2	Weighted Average Gross Calorific value (As fired)	kCal/ Kg/	11355.81	11330.24	0	11371	0
15.3	Weighted Average Landed Price		43730.42	43730.42	43730.42	42332.75	42102.26
15.4	Actual Average stock maintained	MT	839.08	829.34	829.34	1251.94	1502
16	Weighted average duration of outages :						
16.1	Planned Outages	(Days)	134.24	34.14	238.73	49	0.42
16.2	Forced Outages	(Days)	5.73	0	3.03	0.49	1.1
16.3	Number of tripping	Nos.	10	0	9	5	6
16.4	Number of start-ups :						
16.4.1	Cold Start-up	Nos.	14	10	11	10	8
16.4.2	Warm Start-up	Nos.	3	1	1	0	1
16.4.3	Hot start-up	Nos.	5	0	5	2	4
17	Cost of spares consumed	Rs. Lakhs	1764.41	947.43	1132.64	649.04	427.05
18	Average stock of spares	Rs. Lakhs	3160.98	3048.13	3195.21	3413.89	3289.86
19	NOx and other particulate matter emission :						
19.1	Design value						
19.2	Actual emission						
20	Number of employees deployed in O&M / Non O&M						
20.1	- Executive		114	112	106	85	74
20.2	- Non Executive		132	125	120	114	99
20.3	Corporate Office		3170	3051	2916	2973	2787
21	Man-MW ratio	Man/MW	0.37	0.36	0.34	0.30	0.26

Note: Allocation of stations attached at Appendix-I  
Man-MW ratio computed excluding Corporate Employees

## DETAILS OF OPERATION AND MAINTENANCE EXPENSES

Name of the Company:

NTPC Ltd.

Name of the Power Station:

Aurayia Gas Power Plant

Rs. Lakhs

Sl. No.	Items	2012-13	2013-14	2014-15	2015-16	2016-17
1	Consumption of stores & spares	1764.41	947.43	1132.64	649.04	427.05
2	Repair & Maintenance	1851.39	865.67	1358.98	1178.39	1057.49
3	Insurance	145.20	158.22	159.30	159.54	167.51
4	Security	681.95	729.29	859.99	1014.16	1096.11
5	Water Charges	145.25	110.03	112.56	116.35	114.81
6	Administrative Expenses					
6.1	Rent	2.70	2.98	3.23	3.40	3.62
6.2	Electricity charges	179.58	135.62	158.58	127.69	96.07
6.3	Travelling & Conveyance	191.20	195.35	182.05	178.96	132.60
6.4	Communication Expenses	38.18	29.91	22.96	46.30	41.60
6.5	Advertising	7.50	4.44	11.22	6.36	3.67
6.6	Foundation Laying & Inaugration	0.00	0.00	0.00	0.00	0.00
6.7	Donation	0.00	0.00	0.00	0.00	0.00
6.8	Entertainment	9.32	8.10	14.24	14.93	13.64
6.9	Filing fee	26.53	29.19	29.19	29.19	29.19
	Subtotal (Administrative Expenses)	<b>455.01</b>	<b>405.59</b>	<b>421.47</b>	<b>406.82</b>	<b>320.39</b>
7.0	Employee Cost					
7.1.1	Salaries, Wages & Allowances	2631.16	2678.51	2743.14	2668.00	2913.96
7.1.2	Pension	15.53	702.13	234.36	231.76	202.36
7.1.3	Gratuity	100.62	41.07	-16.97	-9.61	500.22
7.1.4	Provident Fund	199.44	224.07	221.12	214.95	198.89
7.1.5	Leave Encashment	319.93	314.38	308.67	280.54	387.04
7.2	Staff welfare expenses					
7.2.1	-Medical expenses on superannuated employees	3.59	5.69	6.09	8.22	0.00
7.2.2	-Medical expenses on regular employees & others	262.25	246.89	242.73	322.59	102.99
7.2.3	-Uniform/Livries & safety equipment	20.48	54.11	48.51	37.11	52.05
7.2.4	-Canteen expenses	55.57	54.72	71.19	69.80	67.21
7.2.5	-Other staff welfare expenses	51.93	62.25	48.10	59.72	80.87
	Subtotal (Staff welfare Expenses)	393.83	423.67	416.61	497.44	303.11
7.3	Productivity linked Incentive	111.17	115.02	40.45	36.06	0.00
7.4	Expenditure on VRS	0.00	0.00	0.00	0.00	0.00
7.5	Ex-gratia	72.42	69.84	117.55	69.23	63.92
7.6	Performance Related Pay (PRP)	184.63	111.36	181.50	215.71	228.92
	Sub Total (Employee Cost)	<b>4028.73</b>	<b>4680.04</b>	<b>4246.43</b>	<b>4204.06</b>	<b>4798.43</b>
8	Loss of Store	0.00	3.30	14.12	17.84	-0.01
9	Provisions	12.64	12.15	20.89	39.11	35.73
10	Prior Period Expenses	0.00	0.00	0.00	0.00	0.00
11	Corporate Office expenses allocation	1706.18	1725.50	1834.80	1886.32	1928.91
12	Others					
12.1	Rates & Taxes	4.77	7.06	3.21	6.18	8.87
12.2	Water cess	4.67	3.27	3.51	3.03	1.81
12.3	Training & recruitment expenses	13.34	11.01	15.11	7.70	4.23
12.4	Tender Expenses	22.49	31.69	35.33	21.55	15.83
12.5	Guest house expenses	15.91	26.72	27.75	32.58	29.50
12.6	Education expenses	25.12	45.91	14.45	5.51	4.32
12.7	Community Development Expenses	153.22	174.87	241.62	218.42	139.70
12.8	Ash utilisation expenses	0.00	0.00	0.00	0.00	0.00
12.9	Books & Periodicals	0.78	2.75	1.01	1.16	0.70
12.10	Professional Charges	23.10	16.85	11.49	17.62	1.32

Rs. Lakhs

Sl. No.	Items	2012-13	2013-14	2014-15	2015-16	2016-17
12.11	Legal expenses	51.25	6.30	13.32	6.06	1.13
12.12	EDP Hire & other charges	23.48	16.45	15.39	17.62	13.78
12.13	Printing & Stationery	10.49	9.45	20.01	11.54	8.29
12.14	Misc Expenses	199.12	455.07	225.69	158.62	184.48
	Sub Total (Others)	<b>547.74</b>	<b>807.40</b>	<b>627.89</b>	<b>507.59</b>	<b>413.95</b>
13	(Total 1 to 12)	<b>11338.51</b>	<b>10444.61</b>	<b>10789.07</b>	<b>10179.21</b>	<b>10360.39</b>
14	Revenue / Recoveries	-18.81	-25.53	-32.21	-22.98	-31.48
15	Net Expenses	<b>11319.69</b>	<b>10419.08</b>	<b>10756.86</b>	<b>10156.23</b>	<b>10328.91</b>
16	Capital spares consumed	2222.83	70.18	1101.67	31.17	164.93
	Total O&M Cost	<b>13542.52</b>	<b>10489.26</b>	<b>11858.53</b>	<b>10187.40</b>	<b>10493.84</b>

### Details of capital Spares

**Name of Company : NTPC Limited**

**Name of Power station : Aurayia Gas Station**

Rs. Lakhs

Sl . No.	ITEM	2012-13	2013-14	2014-15	2015-16	2016-17
(A)	Details of capital spares in Opening stock	25869.15	26158.71	27048.34	27678.16	30791.32
(B)	Details of capital spares procured during the year	2512.39	959.81	1731.49	3144.33	742.92
(C)	Details of capital spares consumed during the year	2222.83	70.18	1101.67	31.17	164.93
(D)	Details of capital spares closing at the end of the year	26158.71	27048.34	27678.16	30791.32	31369.31

**Note: Details of spares being provided in soft copy as voluminous**

Name of the Utility: NTPC Ltd														
Name of the Generating Station: Aurayia Gas Power Plant														
Station/ Stage/ Unit: 663.36MW (4GT X 111.19MW+2ST X 109.3MW)														
Fuel Type (Coal/ Lignite/ Gas/ Liquid Fuel/ Nuclear/ Hydro): Combined Cycle														
Capacity of Plant (MW): 663.36														
COD : 01.12.1090														
		2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
1	Plant Availability Factor (PAF) (%)	81.94	90.53	89.78	81.17	86.18	91.33	95.99	92.47	91.56	98.12	88.48	97.65	97.48
2	Plant Load Factors (PLF) (%)	70.87	73.68	79.39	69.91	64.41	77.93	75.19	66.75	47.75	30.84	28.64	25.94	9.22
3	Scheduled Energy (MU)	4061.5	4208.7	4458.6	3897.2	3611.5	4428.6	4123.5	3768.4	2732.75	1756.69	1637.25	1508.8	537.59
4	Scheduled Generation (MU)	4061.5	4208.7	4458.6	3987.2	3611.5	4428.6	4123.5	3768.4	2732.75	1756.69	1637.25	1508.8	537.59
5	Actual Generation (MU)	4043.93	4194.2	4530.49	3977.82	3647.2	4416.39	4254.65	3775.64	2692.7	1730.11	1606.77	1464.85	509.52
6	Quantum of Gas consumption (MSMC)	772.646	760.145	915.771	882.62	794.361	934.247	993.219	893.647	636.213	410.078	383.06	341.626	125.027
7	Value of Gas (Rs. Lakh)													
8	Specific Gas Consumption (smc/kwh)	0.226	0.229	0.226	0.22	0.216	0.231	0.228	0.23	0.229	0.229	0.231	0.226	0.23
9	Gross Calorific Value of Gas (Kcal/ kwh)	9288.7	9213.4	9143	9124.2	9135.8	9155.76	9159.43	9113.15	9176.12	9138.05	9150.03	9377.48	9186
10	Heat Contribution of Gas (Kcal/ kwh)	2096.09	2112.85	2068.63	2150.69	2177.07	2112.63	2090.78	2100.26	2104.74	2091.43	2112.58	2123.45	2143.85
11	Cost Of Specific Coal Consumption (Rs./Kwh) – Finally admitted by CERC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12	Quantum of ARN Consumption (KL)	170804.2	238070.1	143773.1	80122.4	106318.9	125780.1	4834.8	286.9	431.4	132.7	1642.1	358.6	0
13	Value of Oil (Rs. lakh)	Data not available				38562.47	39165.45	1637.43	103.14	155.57	49.21	609.07	133	0
14	Gross calorific value of oil (kcal/lit)	8097	8157	8122	8064.7	8039.5	8031.15	7907.5	7736.53	7736.44	7735.58	7733.7	7733.68	0
15	Specific Oil Consumption (lit/ kwh)	0.246	0.246	0.254	0.267	0.26	0.262	0.267	0.27	0.279	0.273	0.298	0.274	0
16	Cost Of Specific Oil Consumption (Rs./Kwh) – Finally admitted by CERC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
17	Heat Contribution of Oil (Kcal/ kwh)	1991	2009	2063	2033	2088	2107	2111	2092	2155	2111	2304	2117	0
18	Station Heat Rate (kcal/kwh)	2078	2089	2068	2141	2167	2112	2091	2100	2105	2091	2113	2123	2144
19	Auxiliary Energy Consumption (%)	1.81	1.8	1.8	2.08	2.36	2.47	2.62	2.66	2.96	3.46	3.21	2.86	4.32
20	Debt at the end of the year (Rs. Cr)	59.076	46.092	33.241	20.861	10.864	10.666	11.144	10.947	10.963	12.155	102.713	102.724	89.154
21	Equity (Rs. Cr - (Average) #	369.959	369.945	369.994	370.106	370.807	371.059	370.722	370.426	370.339	370.790	404.884	441.608	444.937
22	Working Capital (Rs. Cr) – finally admitted by CERC	244.244	240.185	241.309	243.104	244.216	338.952	341.943	345.841	348.609	352.778	573.039	569.942	572.959
23	Capital cost (Rs. Cr) – finally admitted by CERC (Average) #	739.888	739.840	740.003	740.378	742.713	743.598	742.473	741.487	741.196	742.700	856.346	978.760	989.855
24	Capacity Charges/ Annual Fixed Cost (AFC) in Rs. Cr	167.813	137.581	138.078	139.018	141.766	227.889	232.863	238.347	244.784	254.541	323.802	285.884	294.333
	(a) Return on equity – post tax (admitted by CERC) for 2004-09 & pre tax (admitted by CERC) for 2009-17 \$													
	Absolute value (in Rs. Cr)	51.7943	51.7923	51.7992	51.8149	51.913	87.1285	86.0446	84.9905	84.9705	87.0652	79.3977	87.0188	87.6747
	Rate (%)	14%	14%	14%	14%	14%	23.481%	23.210%	22.944%	22.944%	23.481%	19.610%	19.705%	19.705%
	(b) Interest on Loan													
	Absolute value (in Rs Cr)	9.2082	7.3717	5.5567	3.7872	2.2208	0.8679	0.8811	0.8925	0.5492	0.4456	1.9068	3.4444	3.2855
	Rate (%) – Weighted Average Rate	14.0252%	14.0188%	14.0083%	14.0000%	14.0000%	8.0800%	8.0800%	8.0800%	5.0134%	3.8548%	3.3200%	3.3532%	3.4246%
	(c) Depreciation (finally allowed by CERC)													
	Absolute value (in Rs Cr)	30.0332	0	0	0.3214	2.1016	0.1933	0.2336	0.3787	0.5384	1.1601	66.7856	14.0246	15.0681
	Rate (%)													
	(d) Interest on working Capital													
	Absolute value (in Rs Cr)	25.035	24.6189	24.7341	24.9182	25.0321	41.5216	41.888	42.3656	42.7045	43.2153	77.3602	76.9421	77.3494
	Rate (%)	10.25%	10.25%	10.25%	10.25%	10.25%	12.25%	12.25%	12.25%	12.25%	12.25%	13.50%	13.50%	13.50%
	(e) Operation and maintenance cost (finally admitted by CERC)													
	Absolute value (in Rs Cr)	51.7421	53.7985	55.9876	58.1767	60.4984	98.1773	103.8158	109.7197	116.0217	122.6553	97.3149	103.4178	109.9188

<b>Name of the Utility: NTPC Ltd</b>														
<b>Name of the Generating Station: Aurayia Gas Power Plant</b>														
<b>Station/ Stage/ Unit: 663.36MW (4GT X 111.19MW+2ST X 109.3MW)</b>														
<b>Fuel Type (Coal/ Lignite/ Gas/ Liquid Fuel/ Nuclear/ Hydro): Combined Cycle</b>														
<b>Capacity of Plant (MW): 663.36</b>														
<b>COD : 01.12.1090</b>														
	<b>Water charges (finally admitted by CERC) (in Rs Cr) #</b>	Not Applicable										1.0366	1.0366	1.0366
	<b>Rate (%)</b>	Not Applicable												
	<b>(f) Compensation Allowances (in Rs Cr)</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>25</b>	<b>AFC (Rs. Kwh)</b>	0.37	0.31	0.31	0.31	0.31	0.48	0.49	0.50	0.51	0.53	0.67	0.59	0.61
<b>26</b>	<b>Energy Charge (Rs./Kwh)</b>	1.67	2.47	2.63	2.35	2.76	2.43	2.80	3.78	5.03	3.94	4.54	3.97	3.33
<b>27</b>	<b>Total tariff (Rs. Kwh)</b>	2.04	2.78	2.94	2.66	3.07	2.91	3.29	4.28	5.54	4.47	5.21	4.56	3.94
<b>28</b>	<b>Revenue realisation before tax (Rs. Crore)</b>													
<b>29</b>	<b>Revenue realisation after tax (Rs. Crore)</b>													
<b>30</b>	<b>Profit/ loss (Rs. Crore)</b>	147.51	181.14	234.65	240.28	198.81	219.20	286.46	228.02	433.39	208.13	64.35	-7.45	260.77
<b>31</b>	<b>DSM Generation (MU)</b>	-17.57	-14.4	71.89	80.62	35.7	-12.21	131.15	7.24	-40.05	-26.58	-30.48	-43.95	-28.07
<b>32</b>	<b>DSM Rate (Ps/Kwh)</b>	Data not available												
<b>33</b>	<b>Revenue from DSM (Rs. Crore)</b>				-29.33	-42.54	-7.46	-50.95	-7.13	3.42	4.87	8.38	9.08	5.15

**Note:**

- 1 \$ "Ex-Bus" word is additionally inserted.
- 2 # "Average" word is additionally inserted.
- 3 \$ "for 2004-09 & pre tax (admitted by CERC) for 2009-17" word is additional inserted
- 4 # Additional Row 24(e) inserted
- 5 DSM Revenue (-)Received / (+) Paid