

Format AS3: RRAS Provider Parameters by ERPC

FROM: **ERPC**

TO: **NODAL AGENCY (NLDC, DELHI)**

Name of the RRAS Provider Generating Station: **FSTPP**

Name of the Owner Organization : **NTPC Ltd**

Validity of the information: From **16/03/2021 TO 15/04/2021**

Date: **12.03.2021**

S.No.	Title/Parameters	Values/Data
a)	Number of Generating Units	ST-I& II: 3*200+2*500 MW ST- III: 1*500 MW
b)	Total Installed Capacity (MW)	ST -I& II: 1600 ST- III: 500
c)	Maximum Possible Ex-Bus Injection (MW) (including overload , if any)	ST - I& II: 1557.0 ST- III: 494.0
d)	Technical Minimum (MW)	ST -I& II: 820.3 ST-III: 257.8
e)	Type of Fuel	Bituminous/ Sub-Bituminous coal
f)	Region	Eastern Region-1
g)	Bid Area	E1
h)	Fixed Cost (paise/KWh up to one decimal place)	ST -I & II: 82.4 ST- III: 149.2
i)	Variable Cost (paise/KWh up to one decimal place)	ST -I & II: 263.3 ST- III: 258.4
j)	Ramp-Up Rate (MW/Min) for each unit	For 200 MW Stage I:1.83MW/Unit/Min For 500 MW Stage II:4.71MW/Unit/Min For 500 MW Stage III: 4.69 MW/Unit/Min For commercial stage I : 14.92 MW/ min
k)	Ramp-Down Rate (MW/Min) for each unit	-do-
l)	Start-Up time from Cold Start (in Min) and Warm Start (in Min) for each unit	ST-I, II & III: Cold: 360 Minutes ST-I, II & III: Warm: 240 Minutes
m)	Any other information	840 min for RSD in case of unit shutdown period is more than 5 days as boiler will be kept under preservation.



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To: **NODAL AGENCY (NLDC, DELHI)**

Name of the RRAS Provider Generating Station: **KAHALGAON STPP**

Name of the Owner Organization : **NTPC Ltd**

Validity of the information: From **16/03/2021 TO 15/04/2021**

Date: **12.03.2021**

S.No.	Title/Parameters	Values/Data
a)	Number of Generating Units	4*210MW+3*500MW
b)	Total Installed Capacity (MW)	2340
c)	Maximum Possible Ex-Bus Injection (MW) (including overload , if any)	2237 (803+1434)
d)	Technical Minimum (MW)	1194(421+773)
e)	Type of Fuel	Bituminous/ Sub-Bituminous coal
f)	Region	Eastern Region-1
g)	Bid Area	
h)	Fixed Cost (paise/KWh up to one decimal place)	ST-I: 104.8 ST-II: 108.9
i)	Variable Cost (paise/KWh up to one decimal place)	ST-I: 221.6 ST-II: 210.2
j)	Ramp-Up Rate (MW/Min) for each unit	ST-I/II: 1.91/4.69
k)	Ramp-Down Rate (MW/Min) for each unit	ST-I/II: 1.91/4.69
l)	Start-Up from Cold Start and Warm Start (in Min) for each unit	ST-I: 360/240 ST-II: 360/240
m)	Any other information Start Up Time for Cold Start Up (in min) for each unit (For RSD in case of unit shutdown period is more than 5 days as boiler will be kept under preservation.)	Stage I- 840 min Stage II-840 min



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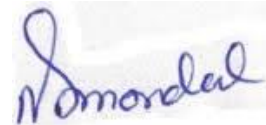
Name of the RRAS Provider Generating Station: **NTPC Barh**

Name of the Owner Organization : **NTPC Ltd**

Validity of the information: From **16/03/2021 TO 15/04/2021**

Date: **12.03.2021**

S.No.	Title/Parameters	Values/Data
a)	Number of Generating Units	ST- II: 2*660 MW
b)	Total Installed Capacity (MW)	1320
c)	Maximum Possible Ex-Bus Injection (MW) (including overload , if any)	ST- II: 1237.5
d)	Technical Minimum (MW)	ST- II: 680.63
e)	Type of Fuel	Bituminous/ Sub-Bituminous coal
f)	Region	ER-I
g)	Bid Area	ER-I & II, NER
h)	Fixed Cost (paise/KWh up to one decimal place)	ST- II: 184.0
i)	Variable Cost (paise/KWh up to one decimal place)	ST- II: 254.6
j)	Ramp-Up Rate (MW/Min) for each unit	6.19
k)	Ramp-Down Rate (MW/Min) for each unit	6.19
l)	Start-Up from Cold Start and Warm Start (in Min) for each unit	Cold: 2100 Warm: 900
m)	Any other information	Nil.



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TO: **NODAL AGENCY (NLDC, DELHI)**

Name of the RRAS Provider Generating Station: **TSTPP-I**

Name of the Owner Organization : **NTPC Ltd**

Validity of the information: From **16/03/2021 TO 15/04/2021**

Date: **12.03.2021**

S.No.	Title/Parameters	Values/Data
a)	Number of Generating Units	2*500 MW
b)	Total Installed Capacity (MW)	1000
c)	Maximum Possible Ex-Bus Injection (MW) (including overload , if any)	945
d)	Technical Minimum (MW)	511.23
e)	Type of Fuel	Bituminous/Sub-Bituminous coal (Start up with HFO/LDO)
f)	Region	ER
g)	Bid Area	
h)	Fixed Cost (paise/KWh up to one decimal place)	95.9
i)	Variable Cost (paise/KWh up to one decimal place)	203.9
j)	Ramp-Up Rate (MW/Min) for each unit	4.65
k)	Ramp-Down Rate (MW/Min) for each unit	4.65
l)	Start-Up from Cold Start and Warm Start (in Min) for each unit	Cold: 360 Warm: 240 840 min if recalled after more than 5 days.
m)	Any other information	Nil



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TO: NODAL AGENCY (NLDC, DELHI)

Name of the RRAS Provider Generating Station: Nabinagar TPP

Name of the Owner Organization : BRBCL

Validity of the information: From 16/03/2021 TO 15/04/2021

Date: 12.03.2021

S.No.	Title/Parameters	Values/Data
a)	Number of Generating Units	4*250 MW
b)	Total Installed Capacity (MW)	750
c)	Maximum Possible Ex-Bus Injection (MW) (including overload , if any)	682.5
d)	Technical Minimum (MW) of each unit	137.5
e)	Type of Fuel	Coal + LDO
f)	Region	ER
g)	Bid Area	E1
h)	Fixed Cost (paise/KWh up to one decimal place)	250.0
i)	Variable Cost (paise/KWh up to one decimal place)	221.1
j)	Ramp-Up Rate (MW/Min) for each unit	2.28
k)	Ramp-Down Rate (MW/Min) for each unit	2.28
l)	Start-Up from Cold Start and Warm Start (in Min) for each unit	Cold: 480* Warm: 300
m)	Any other information *Start Up Time from RSD (in case of unit shutdown period is more than 5 days as boiler will be kept under preservation.)	840 min



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FROM: **ERPC**

TO: **NODAL AGENCY (NLDC, DELHI)**

Name of the RRAS Provider Generating Station: **TEESTA-V HPS**

Name of the Owner Organization : **NHPC Ltd**

Validity of the information: From **16/03/2021 TO 15/04/2021**

Date: **12.03.2021**

S.No.	Title/Parameters	Values/Data
a)	Number of Generating Units	3*170 MW
b)	Total Installed Capacity (MW)	510
c)	Maximum Possible Ex-Bus Injection (MW) (including overload , if any)	504
d)	Technical Minimum (MW) of each unit	150
e)	Type of Fuel	Water
f)	Region	Eastern Region
g)	Bid Area	E1
h)	Fixed Cost (paise/KWh up to one decimal place)	116.3
i)	Variable Cost (paise/KWh up to one decimal place)	116.3
j)	Ramp-Up Rate (MW/Min) for each unit	50
k)	Ramp-Down Rate (MW/Min) for each unit	50
l)	Start-Up from Cold Start and Warm Start (in Min) for each unit	Not Applicable
m)	Any other information	Nil



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Name of the RRAS Provider Generating Station: **RANGIT HPS**

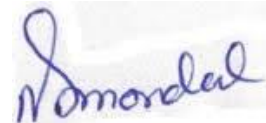
Name of the Owner Organization : **NHPC Ltd**

Validity of the information: From **16/03/2021 TO 15/04/2021**

Date: **12.03.2021**

S.No.	Title/Parameters	Values/Data
a)	Number of Generating Units	3*20 MW
b)	Total Installed Capacity (MW)	60
c)	Maximum Possible Ex-Bus Injection (MW) (including overload , if any)	63*
d)	Technical Minimum (MW) of each unit	17
e)	Type of Fuel	Water
f)	Region	Eastern Region
g)	Bid Area	E1
h)	Fixed Cost (paise/KWh up to one decimal place)	190.0
i)	Variable Cost (paise/KWh up to one decimal place)	190.0
j)	Ramp-Up Rate (MW/Min) for each unit	20
k)	Ramp-Down Rate (MW/Min) for each unit	20
l)	Start-Up from Cold Start and Warm Start (in Min) for each unit	15
m)	Any other information	Nil

*As per availability of water in the Rangit Reservoir.



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Name of the RRAS Provider Generating Station: MTPS Stage -II

Name of the Owner Organization : KBUNL

Validity of the information: From 16/03/2021 TO 15/04/2021

Date: 12.03.2021

S.No.	Title/Parameters	Values/Data
a)	Number of Generating Units	2*195 MW
b)	Total Installed Capacity (MW)	390
c)	Maximum Possible Ex-Bus Injection (MW) (including overload , if any)	372.645
d)	Technical Minimum (MW)	195.195
e)	Type of Fuel	Coal
f)	Region	ER-1
g)	Bid Area	-
h)	Fixed Cost (paise/KWh up to one decimal place)	273.4
i)	Variable Cost (paise/KWh up to one decimal place)	248.5
j)	Ramp-Up Rate (MW/Min) for each unit	1.77 MW/Min
k)	Ramp-Down Rate (MW/Min) for each unit	1.77 MW/Min
l)	Start-Up from Cold Start and Warm Start (in Min) for each unit	Cold: 360 Min Cold: 840 Min (If called after more than 5 days as Boiler will kept under preservation) Warm: 240 Min
m)	Any other information	Nil

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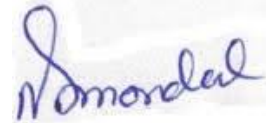
Name of the RRAS Provider Generating Station: Maithon Power Limited

Name of the Owner Organization : TPCL

Validity of the information: From 16/03/2021 TO 15/04/2021

Date: 12.03.2021

S.No.	Title/Parameters	Values/Data
a)	Number of Generating Units	2*525 MW
b)	Total Installed Capacity (MW)	1050
c)	Maximum Possible Ex-Bus Injection (MW) (including overload , if any)	984.38
d)	Technical Minimum (MW)	541.41
e)	Type of Fuel	Bituminous/ Sub-Bituminous coal (Start up with LDO and HFO)
f)	Region	Eastern
g)	Bid Area	E1
h)	Fixed Cost (paise/KWh up to one decimal place)	142.3
i)	Variable Cost (paise/KWh up to one decimal place)	225.6
j)	Ramp-Up Rate (MW/Min) for each unit	4.92
k)	Ramp-Down Rate (MW/Min) for each unit	4.92
l)	Start-Up from Cold Start and Warm Start (in Min) for each unit	Cold: 720 Warm: 300
m)	Any other information	Nil



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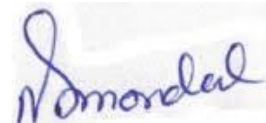
Name of the RRAS Provider Generating Station: **Nabinagar STPP**

Name of the Owner Organization : **NPGCL**

Validity of the information: From **16/03/2021 TO 15/04/2021**

Date: **12.03.2021**

S.No.	Title/Parameters	Values/Data
a)	Number of Generating Units	660 MW
b)	Total Installed Capacity (MW)	1980(3*660)
c)	Maximum Possible Ex-Bus Injection (MW) (including overload , if any)	618.75
d)	Technical Minimum (MW)	340.31
e)	Type of Fuel	Domestic Coal
f)	Region	ER1
g)	Bid Area	E1
h)	Fixed Cost (paise/KWh up to one decimal place)	253.9
i)	Variable Cost (paise/KWh up to one decimal place)	211.6
j)	Ramp-Up Rate (MW/Min) for each unit	6.19
k)	Ramp-Down Rate (MW/Min) for each unit	6.19
l)	Start-Up from Cold Start, Warm Start and Hot start (in Min) for each unit	Cold: 2100 Warm: 900 Hot: 120
m)	Any other information	Nil



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Name of the RRAS Provider Generating Station: **Darlipali STPP**

Name of the Owner Organization : **NTPC Ltd**

Validity of the information: From **16/03/2021 TO 15/04/2021**

Date: **12.03.2021**

S.No.	Title/Parameters	Values/Data
a)	Number of Generating Units	1x800 MW
b)	Total Installed Capacity (MW)	800 MW
c)	Maximum Possible Ex-Bus Injection (MW) (including overload , if any)	787.5
d)	Technical Minimum (MW)	412.5
e)	Type of Fuel	Primary: Bituminous/Sub-Bituminous coal, Secondary: LDO
f)	Region	Eastern Region
g)	Bid Area	E1
h)	Fixed Cost (paise/KWh up to one decimal place)	211.5
i)	Variable Cost (paise/KWh up to one decimal place)	111.2
j)	Ramp-Up Rate (MW/Min) for each unit	7.5
k)	Ramp-Down Rate (MW/Min) for each unit	7.5
l)	Start-Up from Cold Start, Warm Start and Hot start (in Min) for each unit	Cold: 2220 Warm: 1500
m)	Any other information	Nil



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