

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 16/11/2017 TO 15/12/2017

Date: 08.11.2017

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: 1496.5 ST- III: 471.3
d)	Technical Minimum (MW)	ST -I& II: 823.1 ST-III: 259.2
e)	Type of Fuel	Coal
f)	Region	Eastern Region-1
g)	Bid Area	E1
h)	Fixed Cost (paise/KWh up to one decimal place)	ST -I & II: 85.1 ST- III: 152.5
i)	Variable Cost (paise/KWh up to one decimal place)	ST -I & II: 239.4 ST- III: 241.5
j)	Ramp-Up Rate (MW/Min) for each unit	For 200 MW: 1 For 500 MW: 2.5
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: Cold: For 200 MW-300 ST-I&II: Cold: For 500 MW-390 (Ansaldo) ST-I&II: Warm: For 200 MW-180 ST-I&II: Warm: For 500 MW-270 (Ansaldo) ST- III: Cold: For 500 MW-330 (BHEL) ST- III: Warm: For 500 MW-210 (BHEL)
m)	Any other information	Nil

Signature of Authorized Signatory

J.BANDYOPADHYAY

MEMBER SECRETARY, ERPC

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

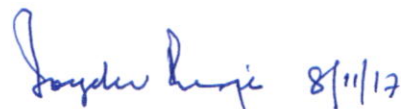
Name of the RRAS Provider Generating Station: **KAHALGAON STPP**

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

Validity of the information: From **16/11/2017 TO 15/12/2017**

Date: **08.11.2017**

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)	2245 (803+1442)
d)	Technical Minimum (MW)	1199(421+778)
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: 102.9 ST-II: 110.4
i)	Variable Cost (paise/KWh up to one decimal place)	ST-I: 213.9 ST-II: 204.5
j)	Ramp-Up Rate (MW/Min) for each unit	ST-I/II: 1.5/2.5
k)	Ramp-Down Rate (MW/Min) for each unit	ST-I/II: 1.5/2.5
l)	Start-Up from Cold Start and Warm Start (in Min) for each unit	ST-I: 480/200 ST-II: 400/170
m)	Any other information	Nil



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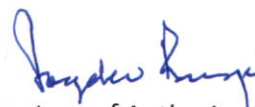
Name of the RRAS Provider Generating Station: **NTPC Barh**

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

Validity of the information: From **16/11/2017 TO 15/12/2017**

Date: **08.11.2017**

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: 1244.1
d)	Technical Minimum (MW)	ST- II: 684
e)	Type of Fuel	Coal
f)	Region	ER-I
g)	Bid Area	ER-I & II, NER
h)	Fixed Cost (paise/KWh up to one decimal place)	ST- II: 186.5
i)	Variable Cost (paise/KWh up to one decimal place)	ST- II: 231.1
j)	Ramp-Up Rate (MW/Min) for each unit	3
k)	Ramp-Down Rate (MW/Min) for each unit	3
l)	Start-Up from Cold Start and Warm Start (in Min) for each unit	Cold: 400 Warm: 240
m)	Any other information	Nil



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FROM: ERPC

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 16/11/2017 TO 15/12/2017

Date: 08.11.2017

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)	960
d)	Technical Minimum (MW)	518.4
e)	Type of Fuel	Coal (Start up with HFO/LDO)
f)	Region	ER
g)	Bid Area	
h)	Fixed Cost (paise/KWh up to one decimal place)	93.4
i)	Variable Cost (paise/KWh up to one decimal place)	130.2
j)	Ramp-Up Rate (MW/Min) for each unit	1.6
k)	Ramp-Down Rate (MW/Min) for each unit	1.6
l)	Start-Up from Cold Start and Warm Start (in Min) for each unit	Cold: 360 Warm: 180
m)	Any other information	Nil



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Name of the RRAS Provider Generating Station: Nabinagar TPP

Name of the Owner Organization : BRBCL

Validity of the information: From 16/11/2017 TO 15/12/2017

Date: 08.11.2017

S.No.	Title/Parameters	Values/Data
a)	Number of Generating Units	4*250 MW
b)	Total Installed Capacity (MW)	250
c)	Maximum Possible Ex-Bus Injection (MW) (including overload , if any)	232
d)	Technical Minimum (MW)	137.5
e)	Type of Fuel	Coal + LDO
f)	Region	ER
g)	Bid Area	
h)	Fixed Cost (paise/KWh up to one decimal place)	313.2
i)	Variable Cost (paise/KWh up to one decimal place)	223.7
j)	Ramp-Up Rate (MW/Min) for each unit	1.33
k)	Ramp-Down Rate (MW/Min) for each unit	1.33
l)	Start-Up time from Cold Start(in Min) and Warm Start (in Min) for each unit	Cold: 480 Warm: 300
m)	Any other information	Nil



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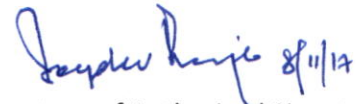
Name of the RRAS Provider Generating Station: TEESTA-V HPS

Name of the Owner Organization : NHPC Ltd

Validity of the information: From 16/11/2017 TO 15/12/2017

Date: 08.11.2017

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)	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
i)	Variable Cost (paise/KWh up to one decimal place)	116
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**

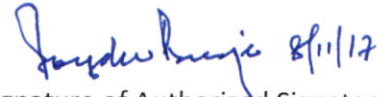
Name of the Owner Organization : **NHPC Ltd**

Validity of the information: From **16/11/2017 TO 15/12/2017**

Date: **08.11.2017**

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)	17
e)	Type of Fuel	Water
f)	Region	Eastern Region
g)	Bid Area	E1
h)	Fixed Cost (paise/KWh up to one decimal place)	183.0
i)	Variable Cost (paise/KWh up to one decimal place)	183.0
j)	Ramp-Up Rate (MW/Min) for each unit	N.A
k)	Ramp-Down Rate (MW/Min) for each unit	N.A
l)	Start-Up from Cold Start and Warm Start (in Min) for each unit	N.A
m)	Any other information	Nil

*As per availability of water in the Rangit Reservoir.



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