

### **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 **16/03/2017 TO 15/04/2017**

Date: **10.03.2017**

S.No.	Title/Parameters	Values/Data
a)	Number of Generating Units	ST #1& II :3*200+2*500 MW
b)	Total Installed Capacity (MW)	1600 MW
c)	Maximum Possible Ex-Bus Injection (MW) (including overload , if any)	ST #1& II :1496.5 MW
d)	Technical Minimum (MW)	ST #1& II :1047.6 MW
e)	Type of Fuel	Coal
f)	Region	Eastern Region-1
g)	Bid Area	E1
h)	Fixed Cost (paise/KWh up to one decimal place)	<b>ST #1&amp; II :78.6 P/KWh</b>
i)	Variable Cost (paise/KWh up to one decimal place)	<b>ST #1&amp; II :257.2 P/KWh</b>
j)	Ramp-Up Rate (MW/Min) for each unit	For 200 MW:1/MW/Unit/Min For 500 MW:2.5/MW/Unit/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	Cold: For 200 MW-300Min Cold: For 500 MW-390Min(Ansaldo)  Warm: For 200 MW-180Min Warm: For 500 MW-270Min(Ansaldo)
m)	Any other information	Nil



Signature of Authorized Signatory  
**A.K.BANDYOPADHYAY**  
**MEMBER SECRETARY, ERPC**

**Format AS3: RRAS Provider Parameters by ERPC**

FROM: **ERPC**

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 **16/02/2017 TO 15/03/2017**

Date: **09.03.2017**

S.No.	Title/Parameters	Values/Data
a)	Number of Generating Units	4*210MW+3*500MW
b)	Total Installed Capacity (MW)	2340MW
c)	Maximum Possible Ex-Bus Injection (MW) (including overload , if any)	2245MW (803+1442)MW
d)	Technical Minimum (MW)	1638MW (588+1050)MW
e)	Type of Fuel	Bituminous/ Sub-Bituminous coal
f)	Region	Eastern Region
g)	Bid Area	
h)	Fixed Cost (paise/KWh up to one decimal place)	<b>St-I 101.6 Paise/Kwh</b> <b>St-II 112.5 Paise/Kwh</b>
i)	Variable Cost (paise/KWh up to one decimal place)	<b>St-I 239.2 Paise/Kwh</b> <b>St-II 228.6 Paise/Kwh</b>
j)	Ramp-Up Rate (MW/Min) for each unit	Stage-I/II: 1.5/2.5 MW/Min/Unit
k)	Ramp-Down Rate (MW/Min) for each unit	Stage-I/II: 1.5/2.5 MW/Min/Unit
l)	Start-Up from Cold Start and Warm Start (in Min) for each unit	Stg-I: 480/200 Min Stg-II: 400/170 Min
m)	Any other information	Nil

Signature of Authorized Signatory  
**A.K.BANDYOPADHYAY**  
**MEMBER SECRETARY, ERPC**

**Format AS3: RRAS Provider Parameters by ERPC**

FROM : **ERPC**

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

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

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

Validity of the information: From **16/02/2017 TO 15/03/2017**

Date: **09.02.2017**

S.No.	Title/Parameters	Values/Data
a)	Number of Generating Units	ST# II: 2*660 MW
b)	Total Installed Capacity (MW)	1320MW
c)	Maximum Possible Ex-Bus Injection (MW) (including overload , if any)	ST# II: 1244 MW
d)	Technical Minimum (MW)	ST# II: 871 MW
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)	<b>ST# II: 191.0 Paise/Kwh</b>
i)	Variable Cost (paise/KWh up to one decimal place)	<b>ST# II: 261.8 Paise/Kwh</b>
j)	Ramp-Up Rate (MW/Min) for each unit	3MW/MIN
k)	Ramp-Down Rate (MW/Min) for each unit	3MW/MIN
l)	Start-Up from Cold Start and Warm Start (in Min) for each unit	Cold: 400 Mins Warm: 240 Mins
m)	Any other information	Nil



Signature of Authorized Signatory  
**A.K.BANDYOPADHYAY**  
**MEMBER SECRETARY, ERPC**

**Format AS3: RRAS Provider Parameters by ERPC**

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 **16/02/2017 TO 15/03/2017**

Date: **09.02.2017**

S.No.	Title/Parameters	Values/Data
a)	Number of Generating Units	2*500 MW
b)	Total Installed Capacity (MW)	1000 MW
c)	Maximum Possible Ex-Bus Injection (MW) (including overload , if any)	960
d)	Technical Minimum (MW)	2*350 MW
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)	<b>90.9 Paise/Kwh</b>
i)	Variable Cost (paise/KWh up to one decimal place)	<b>176.3 Paise/Kwh</b>
j)	Ramp-Up Rate (MW/Min) for each unit	1.6 MW/MIN
k)	Ramp-Down Rate (MW/Min) for each unit	1.6 MW/MIN
l)	Start-Up from Cold Start and Warm Start (in Min) for each unit	Cold: 360 Mins Warm: 180 Mins
m)	Any other information	Nil



Signature of Authorized Signatory  
**A.K.BANDYOPADHYAY**  
**MEMBER SECRETARY, ERPC**

**Format AS3: RRAS Provider Parameters by ERPC**

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 **16/02/2017 TO 15/03/2017**

Date: **09.02.2017**

S.No.	Title/Parameters	Values/Data
a)	Number of Generating Units	3*170
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)	<b>116</b>
i)	Variable Cost (paise/KWh up to one decimal place)	<b>116</b>
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



Signature of Authorized Signatory  
**A.K.BANDYOPADHYAY**  
**MEMBER SECRETARY, ERPC**

**Format AS3: RRAS Provider Parameters by ERPC**

FROM: **ERPC**

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

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

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

Validity of the information: From **16/02/2017 TO 15/03/2017**

Date: **09.02.2017**

S.No.	Title/Parameters	Values/Data
a)	Number of Generating Units	3*20
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)	<b>Fixed Cost (paise/KWh up to one decimal place)</b>	<b>177.0</b>
i)	<b>Variable Cost (paise/KWh up to one decimal place)</b>	<b>177.0</b>
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.



Signature of Authorized Signatory  
**A.K.BANDYOPADHYAY**  
**MEMBER SECRETARY, ERPC**