

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

FROM: **ERPC**

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

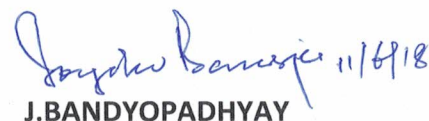
Name of the RRAS Provider Generating Station: **FSTPP**

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

Validity of the information: From **16/06/2018 TO 15/07/2018**

Date: **11.06.2018**

| S.No. | Title/Parameters                                                            | Values/Data                                                                                                                                                                                                                          |
|-------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| a)    | Number of Generating Units                                                  | ST-I& II: 3*200+2*500 MW<br>ST- III: 1*500 MW                                                                                                                                                                                        |
| b)    | Total Installed Capacity (MW)                                               | ST -I& II: 1600<br>ST- III: 500                                                                                                                                                                                                      |
| c)    | Maximum Possible Ex-Bus Injection (MW)<br>(including overload , if any)     | ST - I& II: 1496.5<br>ST- III: 471.3                                                                                                                                                                                                 |
| d)    | Technical Minimum (MW)                                                      | ST -I& II: 823.1<br>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)                              | <b>ST -I &amp; II: 83.5</b><br><b>ST- III: 150.4</b>                                                                                                                                                                                 |
| i)    | Variable Cost (paise/KWh up to one decimal place)                           | <b>ST -I &amp; II: 219.1</b><br><b>ST- III: 220.3</b>                                                                                                                                                                                |
| j)    | Ramp-Up Rate (MW/Min) for each unit                                         | For 200 MW: 1<br>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<br>ST-I&II: Cold: For 500 MW-390 (Ansaldo)<br>ST-I&II: Warm: For 200 MW-180<br>ST-I&II: Warm: For 500 MW-270 (Ansaldo)<br>ST- III: Cold: For 500 MW-330 (BHEL)<br>ST- III: Warm: For 500 MW-210 (BHEL) |
| m)    | Any other information                                                       | Nil                                                                                                                                                                                                                                  |



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**No.: ERPC/Comml-II/As-3**

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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 **16/06/2018 TO 15/07/2018**

Date: **11.06.2018**

| 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/<br>Sub-Bituminous coal        |
| f)    | Region                                                               | Eastern Region-1                          |
| g)    | Bid Area                                                             |                                           |
| h)    | Fixed Cost (paise/KWh up to one decimal place)                       | <b>ST-I: 106.5</b><br><b>ST-II: 109.8</b> |
| i)    | Variable Cost (paise/KWh up to one decimal place)                    | <b>ST-I: 209.7</b><br><b>ST-II: 200.5</b> |
| 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<br>ST-II: 400/170           |
| m)    | Any other information                                                | Nil                                       |

 11/6/18

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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 **16/06/2018 TO 15/07/2018**

Date: **11.06.2018**

| 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)                       | <b>ST- II: 186.5</b>   |
| i)    | Variable Cost (paise/KWh up to one decimal place)                    | <b>ST- II: 234.6</b>   |
| 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<br>Warm: 240 |
| 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 **16/06/2018 TO 15/07/2018**

Date: **11.06.2018**

| 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<br>(Start up with HFO/LDO) |
| f)    | Region                                                               | ER                              |
| g)    | Bid Area                                                             |                                 |
| h)    | Fixed Cost (paise/KWh up to one decimal place)                       | <b>96.4</b>                     |
| i)    | Variable Cost (paise/KWh up to one decimal place)                    | <b>171.5</b>                    |
| 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<br>Warm: 180          |
| m)    | Any other information                                                | Nil                             |



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

FROM: ERPC

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 16/06/2018 TO 15/07/2018

Date: 11.06.2018

| S.No. | Title/Parameters                                                     | Values/Data            |
|-------|----------------------------------------------------------------------|------------------------|
| a)    | Number of Generating Units                                           | 4*250 MW               |
| b)    | Total Installed Capacity (MW)                                        | 500                    |
| 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)                       | <b>242.6</b>           |
| i)    | Variable Cost (paise/KWh up to one decimal place)                    | <b>196.4</b>           |
| 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 from Cold Start and Warm Start (in Min) for each unit       | Cold: 480<br>Warm: 300 |
| m)    | Any other information                                                | Nil                    |



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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 **16/06/2018 TO 15/07/2018**

Date: **11.06.2018**

| 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)                       | <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            |



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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 **16/06/2018 TO 15/07/2018**

Date: **11.06.2018**

| 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)    | <b>Fixed Cost (paise/KWh up to one decimal place)</b>                | <b>190.0</b>   |
| i)    | <b>Variable Cost (paise/KWh up to one decimal place)</b>             | <b>190.0</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.

  
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