

# पावर सिस्टम ऑपरेशन कॉरपोरेशन लिमिटेड

(पावरग्रिड की पूर्ण स्वामित्व प्राप्त सहायक कंपनी)

## POWER SYSTEM OPERATION CORPORATION LIMITED

(A wholly owned subsidiary of POWERGRID)



पंजीकृत एवं केन्द्रीय कार्यालय: बी-9, प्रथम तल, कुतुब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली-110 016  
Registered & Corporate Office : B - 9, 1st Floor, Qutub Institutional Area, Katwaria Sarai, New Delhi - 110 016  
Website : www.posoco.in, www.nldc.in, Tel: 011-26536832, 26524522, Fax: 011-26524525, 26536901

संदर्भ संख्या:पोसोको/एनएलडीसी/एएसओ/2016/

दिनांक: 16<sup>th</sup> May, 2016

सेवा मे,

वितरण सूची के अनुसार

**विषय: Monthly report on RRAS mechanism for the month of April 2016**

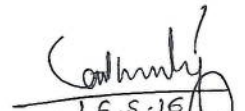
महोदया/महोदय,

As you are kindly aware, ancillary services have been implemented from 12th April 2016 and all the regions are participating. Ancillary Services, being implemented for the first time in the country, envisage harnessing of un-requisitioned surplus in Inter State Generating Stations (ISGS), addresses congestion management issues and facilitates optimization at Regional & National Level and thereby facilitates integration of renewables too.

According to the provision of Detailed Procedure for Ancillary Services Operations, report for the Month of April-16, regarding the various operational aspects of the RRAS mechanism is enclosed.

सादर धन्यवाद,

भवदीय

  
16.5.16  
(जी.चक्रवर्ती)

उप महाप्रबन्धक,  
रा. भा. प्रे. के.

Enclosed: Monthly report on RRAS mechanism.

## वितरण सूची

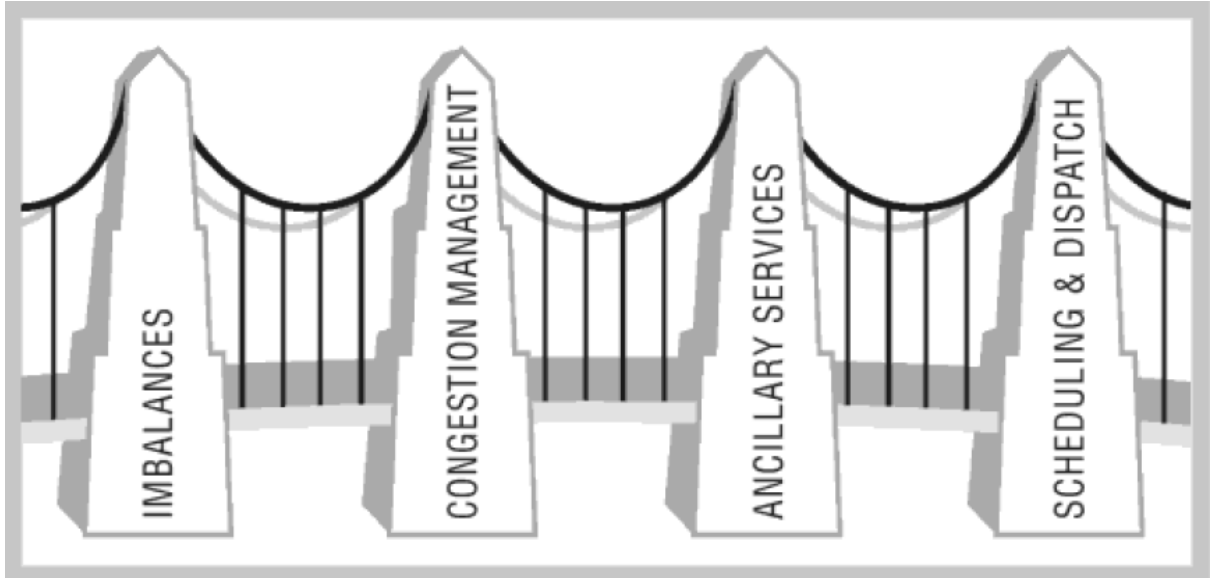
### Distribution List

- 1 सचिव, के.वि.नि.आ. तीसरा एवं चौथा तल, चंद्रलोक भवन, 36, जनपथ, नई दिल्ली-110001  
Secretary, CERC, 3<sup>rd</sup> & 4<sup>th</sup> Floor, Chanderlok Building, 36, Janpath, New Delhi-110001
- 2 मुख्य अभियंता (जी एम), के.वि.प्रा., सेवा भवन, आर. के. पुरम, नई दिल्ली-110066  
Chief Engineer (GM), CEA, Sewa Bhavan, R.K.Puram, New Delhi-110066
- 3 सदस्य सचिव, उ. क्षे. वि. स., 18/ए, शहीद जीत सिंह सनसनवाल मार्ग, नई दिल्ली - 110016  
Member Secretary, NRPC, 18/A, SJSS Marg, Katwaria Sarai, New Delhi-110016
- 4 सदस्य सचिव, प. क्षे. वि. स., एफ-3, एम आई डी सी क्षेत्र, अंधेरी(पूर्व), मुंबई - 400093  
Member Secretary, WRPC, F-3, MIDC Area, Andheri (East), Mumbai-400093
- 5 सदस्य सचिव, द. क्षे. वि. स., 29, रेस कोर्स क्रॉस रोड, बंगलूरु - 560009  
Member Secretary, SRPC, 29, Race Course Cross Road, Bangalore-560009
- 6 सदस्य सचिव, पू. क्षे. वि. स., 14, गोल्फ क्लब रोड, कोलकाता - 700033  
Member Secretary, ERPC, 14, Golf Club Road, Kolkata-700033
- 7 सदस्य सचिव, उ. पू. क्षे. वि. स., मेघालय राज्य आवासीय वित्त सहकारी समिति लिमिटेड भवन, नॉग्रिम हिल्स, शिलोंग - 793003  
Member Secretary, NERPC, Meghalaya State Housing Finance Cooperative Society Ltd. Building, Nongrim Hills, Shillong -793003
- 8 महाप्रबंधक, पू. क्षे. भा. प्रे. के., 14, गोल्फ क्लब रोड, कोलकाता - 700033  
General Manager, ERLDC, 14, Golf Club Road, Kolkata-700033
- 9 महाप्रबंधक, प. क्षे. भा. प्रे. के., एफ-3, एम आई डी सी क्षेत्र, अंधेरी(पूर्व), मुंबई - 400093  
General Manager, WRLDC, F-3, MIDC Area, Andheri (East), Mumbai-400093
- 10 महाप्रबंधक, उ.क्षे.भा.प्रे.के., 18/ए, शहीद जीत सिंह सनसनवाल मार्ग, नई दिल्ली - 110016  
General Manager, NRLDC, 18/A, SJSS Marg, Katwaria Sarai, New Delhi-110016
- 11 कार्यपालक निदेशक, द. क्षे. भा. प्रे. के., 29, रेस कोर्स क्रॉस रोड, बंगलूरु - 560009  
Executive Director, SRLDC, 29, Race Course Cross Road, Bangalore-560009
- 12 महाप्रबंधक, पू. क्षे. भा. प्रे. के., डोंगतिह, लोअर नॉग्रह, लापलंग, शिलोंग - 793006  
General Manager, NERLDC, Dongtiah, Lower Nongrah, Laplang, Shillong-793006



पावर सिस्टम ऑपरेशन कार्पोरेशन लिमिटेड  
राष्ट्रीय भार प्रेषण केंद्र, नई दिल्ली

**POWER SYSTEM OPERATION CORPORATION LTD**  
**NATIONAL LOAD DESPATCH CENTRE, NEW DELHI**



**IMPLEMENTATION OF THE RRAS MECHANISM**  
**REPORT FOR THE MONTH OF APRIL 2016**

## **CONTENTS**

|          |  |     |
|----------|--|-----|
| <b>1</b> | Week wise dispatch of Ancillary services April 2016                  | 1-2 |
| <b>2</b> | Date wise, station wise Ancillary Services Despatch                  | 3   |
| <b>3</b> | Reasons for Ancillary Services Despatch                              | 4   |
| <b>4</b> | Variable Cost of RRAS Providers despatched during the month          | 4   |
| <b>5</b> | Payment to the RRAS Provider(s) from the DSM Pool for Up Regulation  | 5   |
| <b>6</b> | Payments by the RRAS Provider(s) to the DSM Pool for DOWN Regulation | 5   |

**Section-I: Week wise despatch of Ancillary services-**

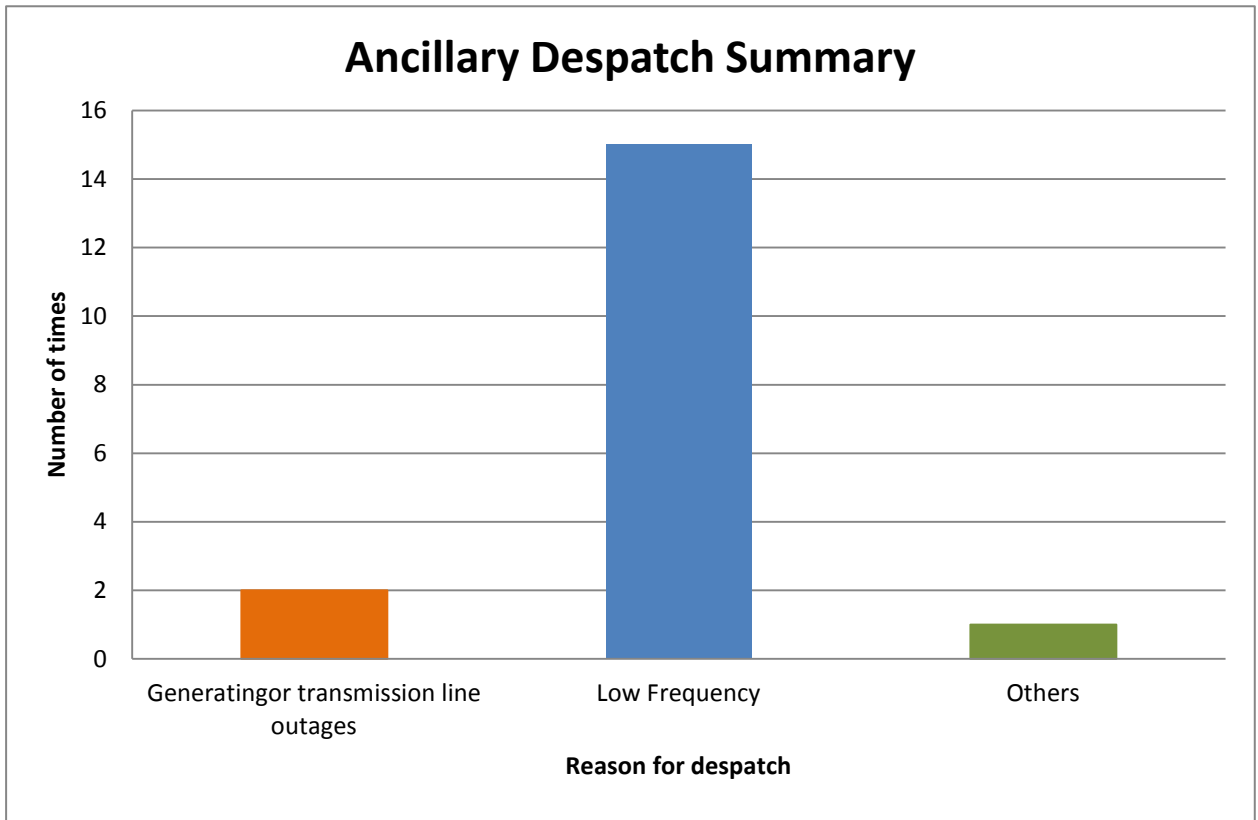
| Week                    | Sl no | Region | Station Name                     | Variable Cost (Paise/kWh) | Fixed Cost (Paise/kWh) | Energy Despatched (MWhr) |
|-------------------------|-------|--------|----------------------------------|---------------------------|------------------------|--------------------------|
| 11-04-16 to 17-04-16    | 1     | NR     | Dadri TPS Stage - II             | 324.80                    | 87.20                  | 86.24                    |
|                         | 2     | NR     | Dadri TPS Stage - I              | 304.70                    | 158.10                 | 103.82                   |
|                         | 3     | NR     | Rihand TPS Stage - I             | 131.40                    | 78.50                  | 132.54                   |
|                         | 4     | NR     | Rihand TPS Stage - II            | 125.50                    | 91.90                  | 74.02                    |
|                         | 5     | NR     | Rihand TPS Stage - III           | 120.00                    | 128.60                 | 17.49                    |
|                         | 6     | NR     | Singrauli STPS                   | 125.70                    | 53.30                  | 32.13                    |
|                         | 7     | NR     | Unchahar TPS Stage - I           | 259.30                    | 84.80                  | 52.54                    |
|                         | 8     | NR     | Unchahar TPS Stage - II          | 257.40                    | 89.00                  | 58.02                    |
|                         | 9     | NR     | Unchahar TPS Stage - III         | 257.40                    | 138.20                 | 61.83                    |
|                         | 10    | WR     | NTPC-SAIL Power Company Pvt. Ltd | 196.20                    | 176.70                 | 15.00                    |
|                         | 11    | WR     | VSTPS-STAGE-III                  | 150.00                    | 109.60                 | 2.25                     |
|                         | 12    | WR     | Costal Gujarat Power Ltd         | 137.13                    | 90.44                  | 42.38                    |
| Total Energy Despatched |       |        |                                  |                           |                        | 678.24                   |
| 18-04-16 to 24-04-16    | 1     | NR     | Rihand TPS Stage - III           | 120.00                    | 128.60                 | 29.09                    |
|                         | 2     | NR     | Dadri TPS Stage - II             | 324.80                    | 87.20                  | 132.35                   |
|                         | 3     | NR     | Dadri TPS Stage - I              | 304.70                    | 158.10                 | 66.15                    |
|                         | 4     | NR     | Rihand TPS Stage - II            | 125.50                    | 91.90                  | 166.16                   |
|                         | 5     | NR     | Unchahar TPS Stage - I           | 259.30                    | 84.80                  | 20.59                    |
|                         | 6     | NR     | Unchahar TPS Stage - II          | 257.40                    | 89.00                  | 28.48                    |
|                         | 7     | NR     | Unchahar TPS Stage - III         | 257.40                    | 138.20                 | 47.90                    |
|                         | 8     | NR     | Indra Gandhi STPS                | 311.80                    | 170.80                 | 139.54                   |
|                         | 9     | WR     | NTPC-SAIL Power Company Pvt. Ltd | 196.20                    | 176.70                 | 78.57                    |
|                         | 10    | WR     | Mouda STPP Stage-I               | 252.30                    | 190.00                 | 390.91                   |
|                         | 11    | ER     | Talcher STPS - I                 | 127.80                    | 79.99                  | 21.15                    |
|                         | 12    | ER     | Kahalgaoon STPS - I              | 207.90                    | 94.10                  | 16.26                    |
|                         | 13    | ER     | Farakka STPS - III               | 228.40                    | 165.19                 | 82.56                    |
|                         | 14    | ER     | Barh TPS                         | 198.90                    | 256.10                 | 33.20                    |
| Total Energy Despatched |       |        |                                  |                           |                        | 1252.89                  |

| Week                    | Sl no | Region | Station Name                     | Variable Cost (Paise/kWh) | Fixed Cost (Paise/kWh) | Energy Despatched (MWhr) |
|-------------------------|-------|--------|----------------------------------|---------------------------|------------------------|--------------------------|
| 25-04-16 to<br>30-04-16 | 1     | WR     | Mouda STPP Stage-I               | 252.30                    | 190.00                 | 902.30                   |
|                         | 2     | NR     | Indra Gandhi STPS                | 311.80                    | 170.80                 | 734.40                   |
|                         | 3     | NR     | Dadri TPS Stage - I              | 304.70                    | 87.20                  | 1947.13                  |
|                         | 4     | WR     | VSTPS-STAGE-IV                   | 156.40                    | 153.00                 | 74.68                    |
|                         | 5     | WR     | NTPC-SAIL Power Company Pvt. Ltd | 196.20                    | 176.70                 | 168.40                   |
|                         | 6     | ER     | Talcher STPS - I                 | 127.80                    | 79.99                  | 22.08                    |
|                         | 7     | WR     | SIPAT TPS Stg-II                 | 134.70                    | 126.20                 | 61.64                    |
|                         | 8     | WR     | VSTPS-STAGE-V                    | 144.90                    | 127.10                 | 37.75                    |
|                         | 9     | ER     | Kahalgaon STPS - I               | 207.90                    | 94.10                  | 32.61                    |
|                         | 10    | ER     | Farakka STPS - III               | 228.40                    | 165.19                 | 129.16                   |
|                         | 11    | ER     | Kahalgaon STPS - II              | 198.90                    | 116.20                 | 47.54                    |
|                         | 12    | NR     | Dadri TPS Stage - II             | 304.70                    | 158.10                 | 83.27                    |
|                         | 13    | NR     | Unchahar TPS Stage - III         | 257.40                    | 138.20                 | 74.67                    |
|                         | 14    | NR     | Unchahar TPS Stage - II          | 257.40                    | 89.00                  | 71.41                    |
|                         | 15    | NR     | Unchahar TPS Stage - I           | 259.30                    | 84.80                  | 97.38                    |
|                         | 16    | NR     | Rihand TPS Stage - III           | 120.00                    | 128.60                 | 120.25                   |
|                         | 17    | NR     | Rihand TPS Stage - II            | 125.50                    | 91.90                  | 45.46                    |
|                         | 18    | NR     | Rihand TPS Stage - I             | 131.40                    | 78.50                  | 79.33                    |
| Total Energy Despatched |       |        |                                  |                           |                        | 4729.5                   |

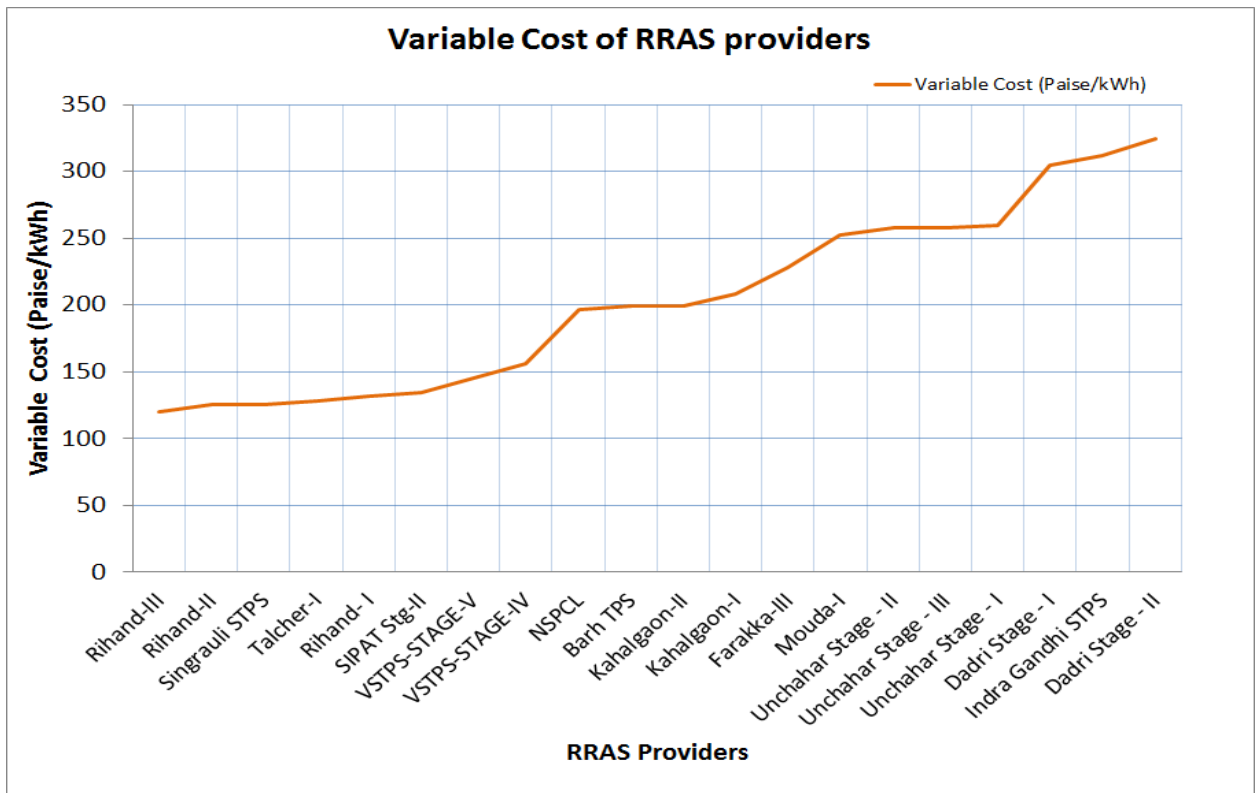
**Section II : Date wise, station wise Ancillary Services Despatch-**

| Sl No | From      |      | To        |      | Reason for triggering of Ancillary                              | Up/<br>Down | Max<br>Total<br>(MW) |
|-------|-----------|------|-----------|------|---|-------------|----------------------|
|       | Date      | Time | Date      | Time |   |             |                      |
| 1     | 12/4/2016 | 0800 | 12/4/2016 | 0845 | Trial run of Rihand TPS Stage - III<br>for Ancillary            | Up          | 10                   |
| 2     | 12/4/2016 | 2315 | 12/4/2016 | 2345 | Low Frequency   | Up          | 13                   |
| 3     | 14/4/2016 | 1530 | 14/4/2016 | 1615 | Due to tripping of JP-Nigrie,<br>Frequency was consistently low | Up          | 255                  |
| 4     | 15/4/2016 | 1530 | 15/4/2016 | 1600 | Low Frequency   | Up          | 209                  |
| 5     | 16/4/2016 | 1700 | 16/4/2016 | 1730 | Low Frequency   | Up          | 157                  |
| 6     | 17/4/2016 | 2215 | 17/4/2016 | 2330 | Low Frequency   | Up          | 325                  |
| 7     | 20/4/2016 | 2345 | 21/4/2016 | 0030 | Low Frequency   | Up          | 75                   |
| 8     | 22/4/2016 | 1915 | 22/4/2016 | 2015 | Low Frequency   | Up          | 366                  |
| 9     | 24/4/2016 | 2200 | 24/4/2016 | 2330 | Low Frequency   | Up          | 450                  |
| 10    | 26/4/2016 | 1100 | 26/4/2016 | 1145 | Low Frequency   | Up          | 439                  |
| 11    | 26/4/2016 | 1230 | 26/4/2016 | 1300 | Low Frequency   | Up          | 395                  |
| 12    | 26/4/2016 | 1330 | 26/4/2016 | 1400 | Low Frequency   | Up          | 450                  |
| 13    | 26/4/2016 | 1400 | 26/4/2016 | 1700 | Low Frequency   | Up          | 470                  |
| 14    | 26/4/2016 | 1845 | 26/4/2016 | 2400 | Generating unit or transmission<br>line outages                 | Up          | 200                  |
| 15    | 27/4/2016 | 0200 | 27/4/2016 | 0300 | Low Frequency   | Up          | 98                   |
| 16    | 28/4/2016 | 1445 | 28/4/2016 | 1700 | Due to emergency outage of HVDC<br>Mundra-Mohindergarh Pole I   | Up          | 190                  |
| 17    | 28/4/2016 | 1900 | 28/4/2016 | 2045 | Low Frequency   | Up          | 387                  |
| 18    | 30/4/2016 | 1600 | 30/4/2016 | 1645 | Low Frequency   | Up          | 409                  |

### Section III: Reasons for Ancillary Services Despatch



### Section IV: Variable Cost of RRAS Providers Despatched during the month





**Section V: Payment to the RRAS Provider(s) from the DSM Pool for Up Regulation For The Week 11/04/2016 To 17/04/2016\***

| Sr. No. | RRAS Provider Name               | Fixed Charges (Rs) | Variable Charges (Rs) | Markup as per CERC Order (Rs) | Total (Rs) |
|---------|----------------------------------|--------------------|-----------------------|-------------------------------|------------|
| 1       | Dadri TPS Stage - I              | 75201              | 280108                | 43120                         | 398429     |
| 2       | Dadri TPS Stage - II             | 164144             | 316347                | 51911                         | 532402     |
| 3       | Rihand TPS Stage - I             | 104045             | 174157                | 66270                         | 344472     |
| 4       | Rihand TPS Stage - II            | 68020              | 92889                 | 37008                         | 197917     |
| 5       | Rihand TPS Stage - III           | 22489              | 20985                 | 8744                          | 52218      |
| 6       | Singrauli STPS                   | 17124              | 40384                 | 16064                         | 73572      |
| 7       | Unchahar TPS Stage - I           | 44554              | 136236                | 26270                         | 207060     |
| 8       | Unchahar TPS Stage - II          | 51636              | 149337                | 29009                         | 229982     |
| 9       | Unchahar TPS Stage - III         | 85449              | 159150                | 30915                         | 275514     |
| 10      | VSTPS-STAGE-III                  | 2461               | 3082                  | 1123                          | 6665       |
| 11      | CGPL                             | 38409              | 59778                 | 21188                         | 119375     |
| 12      | NTPC-SAIL Power Company Pvt. Ltd | 66263              | 73575                 | 18750                         | 158588     |

\* As per RPC available data till 12/05/2016.

**Section VI: Payments by the RRAS Provider(s) to the DSM Pool for DOWN Regulation for the Week 11/04/2016 To 17/04/2016**

| Sr. No. | RRAS Provider Name | Energy Scheduled from VAE under RRAS (MWh) | Total Variable Charges for generation reduced (A) | Variable charges to be paid to the DSM Pool (B = 75% of A) |
|---------|--------------------|--|---|--|
| 1       | Nil                |  |   |  |