GOVERNMENT OF INDIA MINISTRY OF POWER

LOK SABHA UNSTARRED QUESTION NO.3125 TO BE ANSWERED ON 03.08.2017

POWER PURCHASE AGREEMENT

3125. SHRIMATI RITA TARAI:

Will the Minister of POWER be pleased to state:

- (a) whether power is no more a scarce commodity in the present scenario and is available on exchanges at an instantly agreed rate;
- (b) if so, the details thereof;
- (c) whether it has become virtually difficult and even unpredictable to know the power rate over a longer period of time and if so, the details thereof;
- (d) whether the risk borne by the States like Odisha entering into 25 years PPA becomes too high to handle on account of volatility of power prices in the long run, if so, the details thereof; and
- (e) whether his Ministry proposes to consider necessary modification for signing of the PPAs between the Generator and Beneficiary for a period of 5 years (not for 25 years) with provision for review after 5 years, if so, the details thereof and the time-frame for the same?

ANSWER

THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR POWER, COAL, NEW & RENEWABLE ENERGY AND MINES

(SHRI PIYUSH GOYAL)

(a) & (b): Yes, Madam, power is no more a scarce commodity. The peak and energy shortages have progressively reduced over the year and were at 1.6% and 0.7% respectively in the year 2016-17. Price discovered on exchanges follows principles of demand and supply. The price and quantum of electricity to be transacted is determined through a double sided closed auction bidding process on exchanges. The details of Power Supply position and Peak Demand/Peak met of the states for the month of June, 2017 as per the Central Electricity Authority report is attached at Annexure-I. The rates prevalent on the Power Exchanges as per the Central Electricity Regulatory Commission (CERC) Market Monitoring Cell report are attached at Annexure-II.

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- (c): In the case of long term PPAs under cost plus approach, the tariff is governed by certain pre-specified factors in the Regulations of the Appropriate Commission, which is generally determined annually. In case of long term PPAs based on tariff based competitive bidding; the year to year tariff is based on adjustments based on pre-specified indices on escalable components. In case of short term contracts, the rate of power is unpredictable only because the rate fluctuates significantly according to the demand and supply during the period.
- (d) & (e): State Distribution Companies are expected to manage their power purchase portfolio to optimize power purchase cost and risks using various power purchase agreement (PPAs) under Long Term (upto 25 years), Medium term (more than 1 Year upto 5 years) and Short Term (upto 1 year) for which adequate provisions already exists under the Model Bidding Documents notified under section 63 of the Electricity Act, 2003.

ANNEXURE REFERRED TO IN REPLY TO PARTS (a) & (d) OF UNSTARRED QUESTION NO. 3125 TO BE ANSWERED IN THE LOK SABHA ON 03.08.2017.

Energy Power Supply Position Report (Revised)

Figures in MU net

| | N | lay,2017 | | | _ | to May,2017 | | |
|-------------------------|-----------------------|--------------------|---------------|----------------|-----------------------|--------------------|-----|---------|
| State/System/ Region | Energy Requirement | Energy Supplied | Energ Supp | gy not lied | Energy Requirement | Energy Supplied | | rgy not |
| Chandigarh | 174 | 174 | 0 | 0.0 | 308 | 308 | 0 | 0.0 |
| Delhi | 3,375 | 3,373 | 3 | 0.1 | 5,985 | 5,981 | 4 | 0.1 |
| Haryana | 4,649 | 4,649 | 0 | 0.0 | 8,301 | 8,301 | 0 | 0.0 |
| Himachal Pradesh | 803 | 799 | 4 | 0.5 | 1,572 | 1,564 | 8 | 0.5 |
| Jammu & Kashmir | 1,597 | 1,274 | 323 | 20.2 | 3,104 | 2,478 | 626 | 20.2 |
| Punjab | 5,004 | 5,004 | 0 | 0.0 | 8,541 | 8,541 | 0 | 0.0 |
| Rajasthan | 6,015 | 5,927 | 88 | 1.5 | 11,271 | 11,172 | 99 | 0.9 |
| Uttar Pradesh | 11,055 | 10,935 | 120 | 1.1 | 20,819 | 20,600 | 219 | 1.1 |
| Uttarakhand | 1,226 | 1,221 | 5 | 0.4 | 2,307 | 2,301 | 6 | 0.3 |
| Northern Region | 33,900 | 33,357 | 542 | 1.6 | 62,207 | 61,244 | 963 | 1.5 |
| Chhattisgarh | 2,271 | 2,271 | 0 | 0.0 | 4,782 | 4,782 | 0 | 0.0 |
| Gujarat | 9,853 | 9,853 | 0 | 0.0 | 19,793 | 19,793 | 0 | 0.0 |
| Madhya Pradesh | 5,544 | 5,544 | 0 | 0.0 | 10,876 | 10,876 | 0 | 0.0 |
| Maharashtra | 14,145 | 14,112 | 33 | 0.2 | 28,300 | 28,249 | 51 | 0.2 |
| Daman & Diu | 217 | 217 | 0 | 0.0 | 424 | 424 | 0 | 0.0 |
| Dadra & Nagar Haveli | 518 | 518 | 0 | 0.0 | 1,024 | 1,024 | 0 | 0.0 |
| Goa | 356 | 356 | 0 | 0.0 | 724 | 724 | 0 | 0.0 |
| Western Region | 32,905 | 32,872 | 33 | 0.1 | 65,923 | 65,872 | 51 | 0.1 |
| Andhra Pradesh | 4,984 | 4,979 | 5 | 0.1 | 10,026 | 10,019 | 7 | 0.1 |
| Telangana | 4,422 | 4,421 | 2 | 0.0 | 9,414 | 9,410 | 4 | 0.0 |
| Karnataka | 5,455 | 5,453 | 2 | 0.0 | 11,684 | 11,679 | 5 | 0.0 |
| Kerala | 2,232 | 2,228 | 3 | 0.1 | 4,505 | 4,500 | 5 | 0.1 |
| Tamil Nadu | 9,599 | 9,596 | 3 | 0.0 | 19,043 | 19,035 | 8 | 0.0 |
| Puducherry | 244 | 244 | 0 | 0.1 | 480 | 480 | 0 | 0.0 |
| Lakshadweep # | 4 | 4 | 0 | 0 | 8 | 8 | 0 | C |
| Southern Region | 26,936 | 26,920 | 16 | 0.1 | 55,154 | 55,123 | 31 | 0.1 |

| Bihar | 2,325 | 2,219 | 107 | 4.6 | 4,443 | 4,260 | 183 | 4.1 |
|-------------------------|---------|---------|-----|-----|---------|---------|-------|------|
| | - | • | | | | • | | |
| DVC | 1,770 | 1,762 | 7 | 0.4 | 3,519 | 3,510 | 9 | 0.3 |
| Jharkhand | 658 | 656 | 2 | 0.4 | 1,337 | 1,330 | 7 | 0.5 |
| Odisha | 2,556 | 2,555 | 1 | 0.0 | 5,056 | 5,054 | 2 | 0.0 |
| West Bengal | 4,827 | 4,799 | 28 | 0.6 | 9,533 | 9,477 | 56 | 0.6 |
| Sikkim | 37 | 37 | o | 0.0 | 74 | 74 | 0 | 0.0 |
| Andaman- Nicobar | 20 | 15 | 5 | 25 | 40 | 30 | 10 | 25.0 |
| Eastern Region | 12,174 | 12,029 | 145 | 1.2 | 23,962 | 23,707 | 255 | 1.1 |
| Arunachal Pradesh | 64 | 63 | 1 | 1.9 | 126 | 124 | 2 | 1.6 |
| Assam | 756 | 714 | 42 | 5.6 | 1,404 | 1,321 | 83 | 5.9 |
| Manipur | 63 | 62 | 1 | 1.9 | 123 | 121 | 2 | 1.6 |
| Meghalaya | 129 | 129 | o | 0.0 | 253 | 253 | 0 | 0.0 |
| Mizoram | 44 | 43 | 1 | 2.0 | 86 | 85 | 1 | 1.2 |
| Nagaland | 68 | 67 | 1 | 1.6 | 128 | 126 | 2 | 1.6 |
| Tripura | 264 | 260 | 4 | 1.5 | 490 | 480 | 10 | 2.0 |
| North-Eastern Region | 1,389 | 1,339 | 50 | 3.6 | 2,610 | 2,510 | 100 | 3.8 |
| All India | 107,304 | 106,517 | 787 | 0.7 | 209,856 | 208,455 | 1,401 | 0.7 |

 $[\]sharp$ Lakshadweep and Andaman & Nicobar Islands are stand- alone systems, power supply position of these, does not form part of Regional requirement and availability .

Peak Power Supply Position Report (Revised)

Figures in MW net

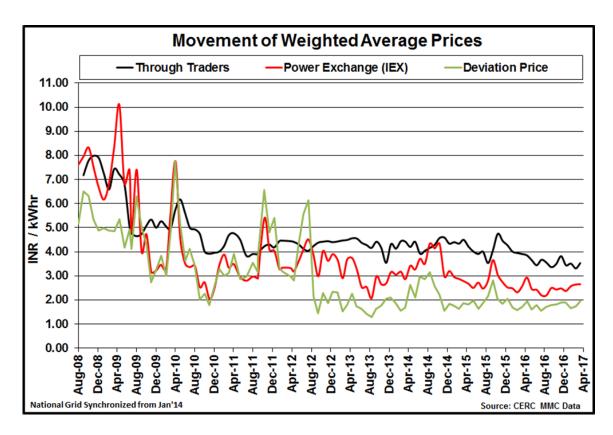
| | Peak Demand | Peak | Dem | | | | | |
|----------------------|----------------|--------|------|------|----------------|-------------|-------------------|------|
| | | Met | not | - | Peak Demand | Peak Met | Demand not Met | |
| Region | (MW) | (MW) | (MW) | (%) | (MW) | (MW) | (MW) | (%) |
| Chandigarh | 340 | 340 | 0 | 0.0 | 340 | 340 | 0 | 0.0 |
| Delhi | 6,021 | 6,021 | 0 | 0.0 | 6,021 | 6,021 | 0 | 0.0 |
| Haryana | 7,780 | 7,780 | 0 | 0.0 | 7,780 | 7,780 | 0 | 0.0 |
| Himachal Pradesh | 1,349 | 1,349 | 0 | 0.0 | 1,349 | 1,349 | 0 | 0.0 |
| Jammu & Kashmir | 2,668 | 2,134 | 534 | 20.0 | 2,668 | 2,134 | 534 | 20.0 |
| Punjab | 8,229 | 8,229 | 0 | 0.0 | 8,229 | 8,229 | 0 | 0.0 |
| Rajasthan | 10,305 | 10,305 | 0 | 0.0 | 10,305 | 10,305 | 0 | 0.0 |
| Uttar Pradesh | 18,646 | 17,819 | 827 | 4.4 | 18,646 | 17,819 | 827 | 4.4 |
| Uttarakhand | 1,992 | 1,992 | 0 | 0.0 | 1,992 | 1,992 | 0 | 0.0 |
| Northern Region | 52,517 | 51,820 | 697 | 1.3 | 52,517 | 51,820 | 697 | 1.3 |
| Chhattisgarh | 3,737 | 3,713 | 24 | 0.6 | 3,888 | 3,887 | 1 | 0.0 |
| Gujarat | 15,325 | 15,325 | 0 | 0.0 | 15,325 | 15,325 | 0 | 0.0 |
| Madhya Pradesh | 8,227 | 8,227 | 0 | 0.0 | 8,402 | 8,402 | 0 | 0.0 |
| Maharashtra | 21,874 | 21,778 | 96 | 0.4 | 22,542 | 22,494 | 48 | 0.2 |
| Daman & Diu | 339 | 339 | 0 | 0.0 | 339 | 339 | 0 | 0.0 |
| Dadra & Nagar Haveli | 768 | 768 | 0 | 0.0 | 768 | 768 | 0 | 0.0 |
| Goa | 505 | 504 | 1 | 0.1 | 558 | 557 | 1 | 0.2 |
| Western Region | 49,208 | 49,048 | 160 | 0.3 | 49,860 | 49,788 | 72 | 0.1 |
| Andhra Pradesh | 7,914 | 7,882 | 32 | 0.4 | 7,914 | 7,882 | 32 | 0.4 |
| Telangana | 7,412 | 7,396 | 16 | 0.2 | 9,009 | 9,001 | 8 | 0.1 |
| Karnataka | 9,376 | 9,358 | 17 | 0.2 | 9,992 | 9,987 | 5 | 0.1 |
| Kerala | 3,889 | 3,837 | 52 | 1.3 | 3,889 | 3,862 | 27 | 0.7 |
| Tamil Nadu | 14,749 | 14,743 | 6 | 0.0 | 15,001 | 14,975 | 26 | 0.2 |
| Puducherry | 379 | 379 | 0 | 0.0 | 388 | 387 | 0 | 0.1 |
| Lakshadweep# | 8 | 8 | 0 | 0 | 8 | 8 | 0 | 0 |
| Southern Region | 41,127 | 40,885 | 242 | 0.6 | 42,770 | 42,535 | 235 | 0.5 |

| 4,122 | 4,021 | 101 | 2.5 | 4,122 | 4,021 | 101 | 2.5 |
|---------|---|---|--|---|---|---|---|
| 2,684 | 2,684 | 0 | 0.0 | 2,684 | 2,684 | 0 | 0.0 |
| 1,211 | 1,211 | 0 | 0.0 | 1,211 | 1,211 | 0 | 0.0 |
| 4,208 | 4,208 | 0 | 0.0 | 4,227 | 4,227 | 0 | 0.0 |
| 7,515 | 7,495 | 20 | 0.3 | 7,820 | 7,793 | 27 | 0.3 |
| 78 | 78 | 0 | 0.0 | 91 | 91 | 0 | 0.0 |
| 40 | 32 | 8 | 20 | 40 | 32 | 8 | 20 |
| 19,149 | 19,032 | 117 | 0.6 | 19,238 | 19,191 | 47 | 0.2 |
| 145 | 145 | 0 | 0.2 | 145 | 145 | 0 | 0.2 |
| 1,649 | 1,580 | 69 | 4.2 | 1,649 | 1,580 | 69 | 4.2 |
| 163 | 161 | 2 | 1.2 | 163 | 161 | 2 | 1.2 |
| 304 | 304 | 0 | 0.1 | 304 | 304 | 0 | 0.1 |
| 86 | 85 | 1 | 0.8 | 86 | 85 | 1 | 0.8 |
| 132 | 131 | 1 | 0.4 | 132 | 131 | 1 | 0.4 |
| 280 | 276 | 4 | 1.4 | 280 | 276 | 4 | 1.4 |
| 2,472 | 2,391 | 81 | 3.3 | 2,472 | 2,391 | 81 | 3.3 |
| 159,816 | 156,733 | 3,083 | 1.9 | 159,816 | 158,393 | 1,423 | 0.9 |
| | 2,684 1,211 4,208 7,515 78 40 19,149 145 1,649 163 304 86 132 280 2,472 | 2,684 2,684 1,211 1,211 4,208 4,208 7,515 7,495 78 78 40 32 19,149 19,032 145 1,580 163 161 304 304 86 85 132 131 280 276 2,472 2,391 | 2,684 2,684 0 1,211 1,211 0 4,208 4,208 0 7,515 7,495 20 78 78 0 40 32 8 19,149 19,032 117 145 145 0 1,649 1,580 69 163 161 2 304 304 0 86 85 1 132 131 1 280 276 4 2,472 2,391 81 | 2,684 2,684 0 0.0 1,211 1,211 0 0.0 4,208 4,208 0 0.0 7,515 7,495 20 0.3 78 78 0 0.0 40 32 8 20 19,149 19,032 117 0.6 145 145 0 0.2 1,649 1,580 69 4.2 163 161 2 1.2 304 304 0 0.1 86 85 1 0.8 132 131 1 0.4 280 276 4 1.4 2,472 2,391 81 3.3 | 2,684 2,684 0 0.0 2,684 1,211 1,211 0 0.0 1,211 4,208 0 0.0 4,227 7,515 7,495 20 0.3 7,820 78 78 0 0.0 91 40 32 8 20 40 19,149 19,032 117 0.6 19,238 145 145 0 0.2 145 1,649 1,580 69 4.2 1,649 163 161 2 1.2 163 304 304 0 0.1 304 86 85 1 0.8 86 132 131 1 0.4 132 280 276 4 1.4 280 2,472 2,391 81 3.3 2,472 | 2,684 2,684 0 0.0 2,684 2,684 1,211 1,211 0 0.0 1,211 1,211 4,208 0 0.0 4,227 4,227 7,515 7,495 20 0.3 7,820 7,793 78 78 0 0.0 91 91 40 32 8 20 40 32 19,149 19,032 117 0.6 19,238 19,191 145 145 0 0.2 145 145 1,649 1,580 69 4.2 1,649 1,580 163 161 2 1.2 163 161 304 304 0 0.1 304 304 86 85 1 0.8 86 85 132 131 1 0.4 132 131 280 276 4 1.4 280 276 2,472 2,391 81 3.3 2,472 2,391 | 2,684 2,684 0 0.0 2,684 2,684 0 1,211 1,211 0 0.0 1,211 1,211 0 4,208 4,208 0 0.0 4,227 4,227 0 7,515 7,495 20 0.3 7,820 7,793 27 78 78 0 0.0 91 91 0 40 32 8 20 40 32 8 19,149 19,032 117 0.6 19,238 19,191 47 145 145 0 0.2 145 145 0 1,649 1,580 69 4.2 1,649 1,580 69 163 161 2 1.2 163 161 2 304 304 0 0.1 304 304 0 86 85 1 0.8 86 85 1 132 131 1 0.4 132 131 1 280 276 4 |

#Lakshadweep and Andaman & Nicobar Islands are stand-alone systems, power supply position of these, does not form part of Regional requirement and availability

| State/ Region | Energy/Demand Cut | | | | |
|------------------|-------------------|--|--|--|--|
| Northern Region | | | | | |
| Chandigarh* | | | | | |
| Delhi | No Notified Cuts | | | | |
| Haryana | No Notified Cuts | | | | |
| Himachal Pradesh | No Notified Cuts | | | | |
| Jammu & Kashmir* | | | | | |
| Punjab | No Notified Cuts | | | | |
| Rajasthan | No Notified Cuts | | | | |
| Uttar Pradesh | No Notified Cuts | | | | |
| Uttarakhand | No Notified Cuts | | | | |
| Western Region | | | | | |
| Chhattisgarh | No Notified Cuts | | | | |
| Gujarat | No Notified Cuts | | | | |
| Madhya Pradesh | No Notified Cuts | | | | |
| Maharashtra | No Notified Cuts | | | | |
| Goa | No Notified Cuts | | | | |
| Southern Region | | | | | |
| Andhra Pradesh | No Notified Cuts | | | | |
| Telangana | No Notified Cuts | | | | |
| Karnataka | No Notified Cuts | | | | |
| Kerala | No Notified Cuts | | | | |
| Tamil Nadu | No Notified Cuts | | | | |
| Puducherry | No Notified Cuts | | | | |
| Eastern Region | | | | | |
| Bihar | No Notified Cuts | | | | |
| Jharkhand | No Notified Cuts | | | | |
| Odisha | No Notified Cuts | | | | |
| West Bengal | No Notified Cuts | | | | |

ANNEXURE REFERRED TO IN REPLY TO PARTS (a) & (d) OF UNSTARRED QUESTION NO. 3125 TO BE ANSWERED IN THE LOK SABHA ON 03.08.2017.



Source: CERC Market Monitoring Cell report

CERC notifies the Average Power Purchase cost(APPC) at the National level by computing the average of APPC of all States and Union Territories, weighted by volume of conventional power purchased by the respective State/UT. CERC order dated 25.1.2016, for "Determination of Average Power Purchase Cost (APPC) at the national level(Petition No. 15/SM/2015) prescribed the National APPC as Rs 3.40/kWh.
