CENTRAL ELECTRICITY AUTHORITY

# OPERATION PERFORMANCE OF GENERATING STATIONS IN THE COUNTRY DURING THE YEAR 2011-12

## An Overview

GRID OPERATION & DISTRIBUTION WING
OPERATION PERFORMANCE MONITORING DIVISION
NEW DELHI
APRIL, 2012

**OPERATION PERFORMANCE OF GENERATING STATIONS IN THE COUNTRY DURING THE YEAR 2011-12**

**An Overview**

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# HIGHLIGHTS

## OPERATION PERFORMANCE OF GENERATING STATIONS IN THE COUNTRY DURING THE YEAR 2011-12

### Highlights

| | |
|---|---|
| **Electric Energy Generation Target for the year 2011-12** | **855.0 BU** |
| **Actual Electric Energy Generation during the year** | **876.4 BU** |
| **Growth in generation during 2011-12** | **8.05 %** |

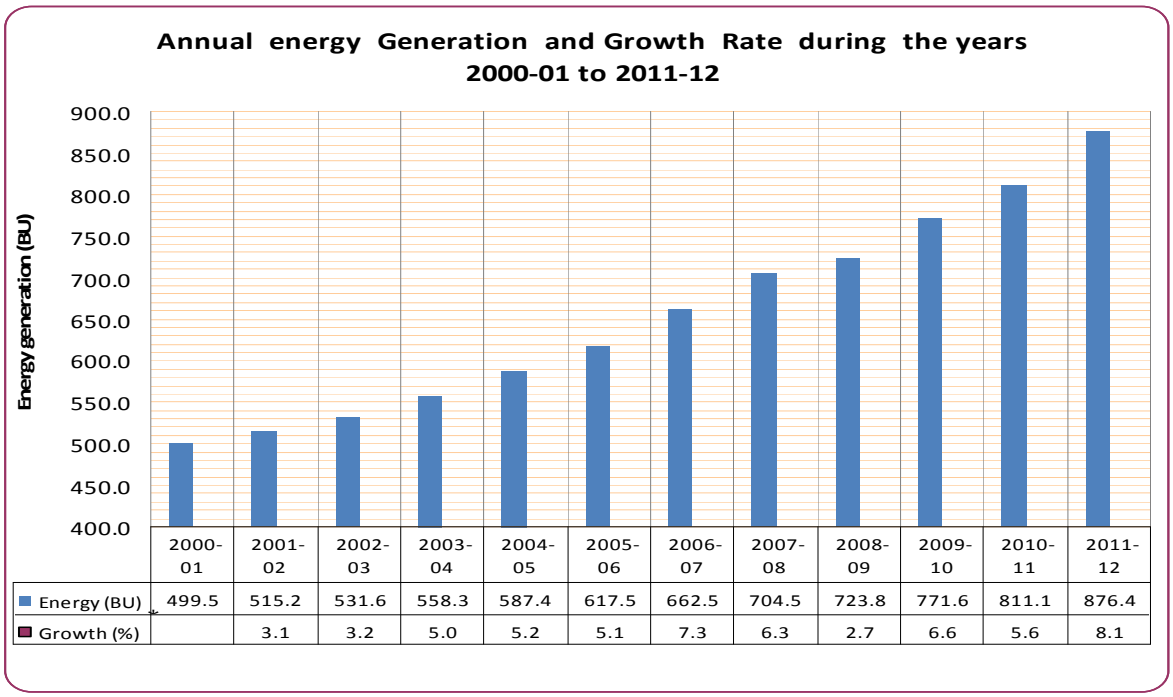
The details of generation and growth rates are given are given below.

Table 1: Annual Electric Energy Generation Targets and Achievement

| Category | Target 2011-12 (BU) | Actual 2011-12* (BU) | % of Target | Actual Last Year 2010-11 (BU) | Growth (%) |
|---|---|---|---|---|---|
| Thermal | 712.2 | 708.5 | 99.47 | 665.0 | 6.53 |
| Nuclear | 25.1 | 32.3 | 128.41 | 26.3 | 22.86 |
| Hydro | 112.1 | 130.4 | 116.40 | 114.3 | 14.15 |
| Bhutan Import | 5.6 | 5.3 | 94.60 | 5.6 | -5.82 |
| **Total** | **855.0** | **876.4** | **102.51** | **811.14** | **8.05** |

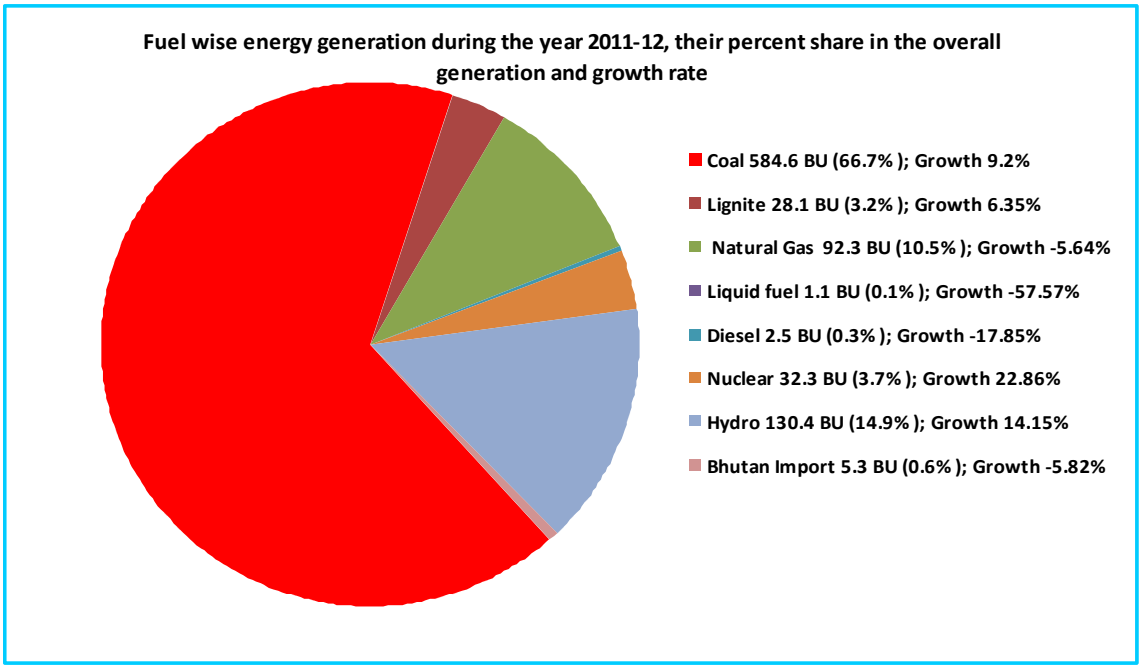
** Generation excludes generation from plants up to 25 MW Capacity.*

- The year wise energy generation and annual growth rates during the period 2001-02 to 2011-12 are presented below:




| | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Energy (BU) | 499.5 | 515.2 | 531.6 | 558.3 | 587.4 | 617.5 | 662.5 | 704.5 | 723.8 | 771.6 | 811.1 | 876.4 |
| Growth (%) | | 3.1 | 3.2 | 5.0 | 5.2 | 5.1 | 7.3 | 6.3 | 2.7 | 6.6 | 5.6 | 8.1 |

The fuel wise annual energy generation during the year 2011-12, their percent share in total generation and growth rates achieved are presented in the figure below.




The highlights/ achievements of operation performance of generating stations in the country during the year 2011-12 (last year of the XI plan) are as under.

- **Gross annual generation of the country has crossed the 875 BU mark (876.4 BU).**
- **The annual growth in the energy generation during the year has been 8.05%, which is the highest during the decade.**
- **The nuclear generation during the year achieved a remarkable growth rate of 22.86% due to improved availability of nuclear fuel to the nuclear plants.**
- **The generation from hydro based plants also improved with a growth rate of 14.15 % due to good monsoon.**
- **The total thermal generation has achieved a growth rate of 6.53 %.The electricity generation during the financial year 2011-12 from coal based thermal power stations has been 584.59 BU with a growth rate of 9.20 %.against 4.0 % over same period last year. The annual electricity generation target of 577.76 BU for the coal based plants was also achieved on 28$^{th}$ March, 2012. The annual achievement was 101.18 % of the annual target.**
- **An all time high monthly electricity generation - Gross monthly generation figure has crossed the 75 BU mark (77.1 BU ) during March'12. Earlier the highest monthly generation was achieved during March, 2011 (75.53 BU).**
- **An all time high daily generation - Gross daily generation figure has crossed the 2.5 BU mark (2.574 BU) achieved on 29$^{th}$ March, 2012.**

- **Availability and quality of coal & availability of gas for power sector continued to be critical input for thermal generation growth. The coal stock of 32 TPS remained critical (less than 7days) on the last day of March'2012.**
- **The average PLF of thermal power projects (Coal/Lignite) reduced to 73.29 %, as compared to 75.08 % in the previous year.**
- **55 numbers of stations with an aggregate installed capacity of 57282.5 MW achieved PLF more than national average PLF of 73.29 %.**
- **15 numbers of thermal power stations with an aggregate installed capacity of 20420 MW operated above 90% PLF.**
- **Growth of thermal generation was mainly restricted due to coal shortages, receipt of poor quality/ wet coal and low schedule from beneficiaries and also increased hydro generation on revival of good monsoon & increased nuclear generation due to better availability of nuclear fuel.**
- **Operational availability of thermal stations has marginally reduced to 82.5 % from 84.2 % achieved during the previous year.**
- **In view of improved generation by Nuclear and Hydro power stations, the requirement for costly power from some of the coal based station, gas, liquid fuel and DG sets reduced. Thus low schedules for gas based generation coupled with the problem of gas supply shortages to various gas based stations, the gas based generation had a negative growth rate.**
- **The Compound annual growth rate (CAGR) of electricity generation during the XI plan has been 5.76% against 5.16% achieved during the X plan.**
- **The annual growth in the energy generation during the year has been 8.1 % highest during the decade. The CAGR of 5.76 % achieved during XI plan was also higher than the CAGR of 5.16 % achieved during X plan.**

# OPERATION PERFORMANCE OF GENERATING PLANTS IN THE COUNTRY DURING THE YEAR 2011-12

## AN OVERVIEW

**OPERATION PERFORMANCE OF GENERATING PLANTS IN THE COUNTRY DURING THE YEAR 2011-12**

**An Overview**

## 1. Electric Energy Generation Targets

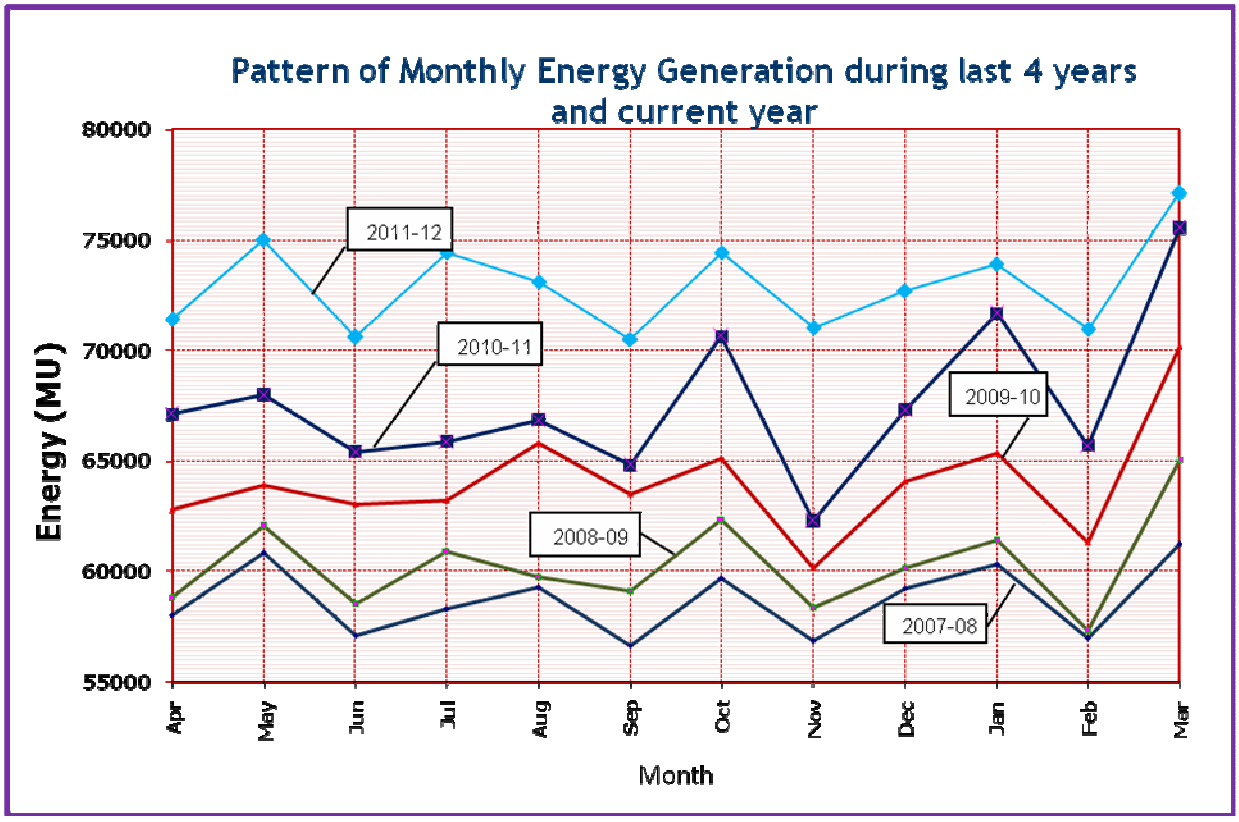
The target for annual electric energy generation in the country for the year 2011-12 was fixed at 855.0 BU comprising as under.

| Category | Target | |
|---|---|---|
| | BU | % |
| Thermal | 712.2 | 83.30 |
| Nuclear | 25.1 | 2.94 |
| Hydro | 112.1 | 13.11 |
| Bhutan Import | 5.6 | 0.65 |
| **Total** | **855.0** | **100.00** |

Capacity addition programme of **17601** MW was considered for the year 2011-12 at the time of finalization of the above energy generation targets.

## 2. Actual Generation during the Year 2011-12 (Provisional)

The annual energy generation achieved during the year 2011-12 has been 876.4 BU (provisional) representing 102.5 % of the target generation of 855.0 BU. The pattern of monthly energy generation in the country during the last 5 years is shown below:



A comparison of the generation with reference to targets is given in the table below:

| Category | Target (BU) | Actual (BU) | % of Target |
|---|---|---|---|
| Thermal | 712.2 | 708.5 | 99.47 |
| Nuclear | 25.1 | 32.3 | 128.41 |
| Hydro | 112.1 | 130.4 | 116.40 |
| Bhutan Import | 5.6 | 5.3 | 94.60 |
| **Total** | **855.0** | **876.4** | **102.51** |

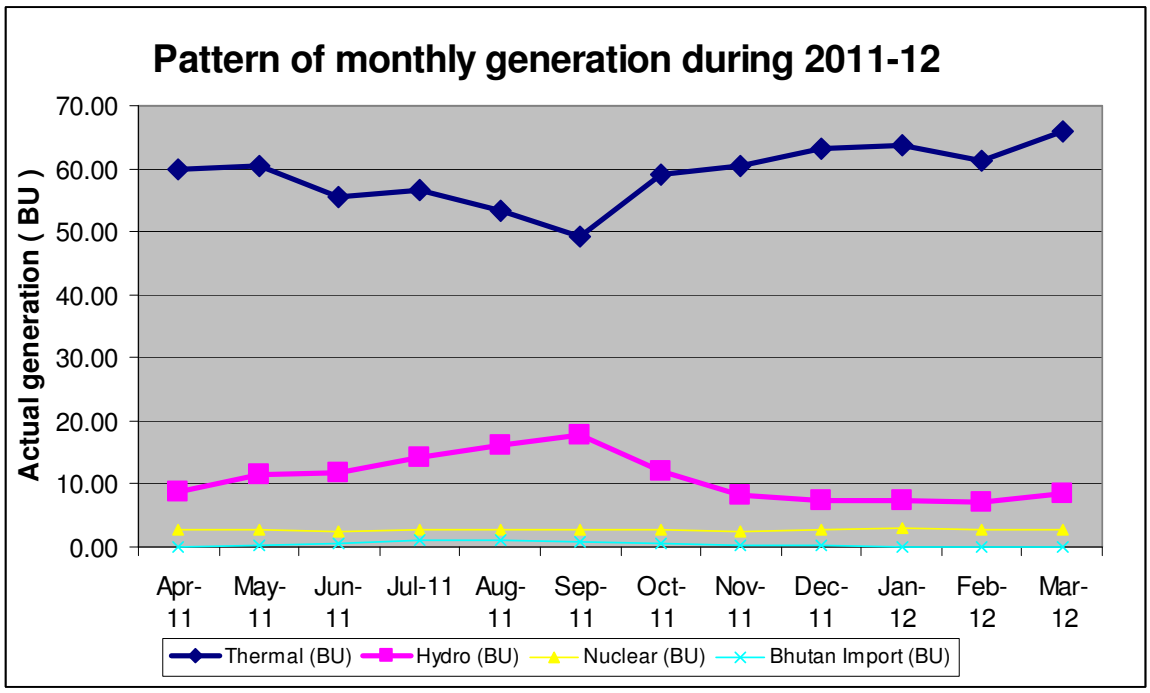
While the nuclear and hydro generation exceeded their respective targets, the thermal generation was marginally lower than its target. Reasons for the lower thermal generation are discussed in Para 10.

The month wise energy generation targets vis-à-vis actual generation from Thermal, Nuclear & hydro stations and imports from Bhutan were as shown below:

| Month | Target (BU) | Thermal (BU) | Hydro (BU) | Nuclear (BU) | Bhutan Import (BU) | Total Actual (BU) | Actual as % of target |
|---|---|---|---|---|---|---|---|
| Apr-11 | 67.95 | 59.82 | 8.84 | 2.66 | 0.11 | 71.43 | 105.11 |
| May-11 | 72.04 | 60.50 | 11.48 | 2.73 | 0.30 | 75.01 | 104.12 |
| Jun-11 | 69.26 | 55.59 | 11.89 | 2.50 | 0.62 | 70.60 | 101.94 |
| Jul-11 | 71.96 | 56.52 | 14.15 | 2.72 | 1.04 | 74.43 | 103.43 |
| Aug-11 | 72.76 | 53.35 | 16.00 | 2.72 | 1.02 | 73.10 | 100.47 |
| **Sep-11** | 71.24 | 49.17 | 17.74 | 2.68 | 0.90 | **70.50** | 98.96 |
| Oct-11 | 72.91 | 59.14 | 11.96 | 2.72 | 0.62 | 74.43 | 102.10 |
| Nov-11 | 69.67 | 60.31 | 8.19 | 2.46 | 0.28 | 71.23 | 102.24 |
| Dec-11 | 71.24 | 63.21 | 7.30 | 2.63 | 0.16 | 73.30 | 102.89 |
| Jan-12 | 73.38 | 63.68 | 7.26 | 2.90 | 0.09 | 73.93 | 100.75 |
| Feb-12 | 68.54 | 61.37 | 7.23 | 2.71 | 0.06 | 71.37 | 104.13 |
| **Mar-12** | 74.05 | 65.79 | 8.39 | 2.84 | 0.08 | **77.10** | 104.12 |
| **Total** | **855.00** | **708.45** | **130.43** | **32.27** | **5.28** | **876.43** | **102.51** |

The total monthly generation varied in the range of 70.5 BU (during the month of September'11) to the maximum value of 77.1 BU (achieved during the month of March'12). Reasons for lower generation during the month of September'11 were mainly due to reduced domestic and agriculture load on account of good monsoon and pleasant season leading to low demand during the month. The thermal generation had a lower peak during the month of September'11 due to higher hydro generation on account of increased inflows.

The month wise pattern of energy generation from Thermal, Nuclear & Hydro stations and imports from Bhutan are shown graphically below:




The Quarter-wise energy generation targets vis-à-vis actual generation from Thermal, Nuclear & hydro stations and imports from Bhutan were as shown below:

| Particulars | Item | 2011-12 | | | | |
|---|---|---|---|---|---|---|
| | | Qtr.1 | Qtr.2 | Qtr.3 | Qtr.4 | Yearly Total |
| Thermal | Programme (BU) | 175.89 | 168.43 | 180.05 | 187.87 | 712.23 |
| | Achievement (BU) | 175.91 | 159.05 | 182.66 | 190.83 | 708.45 |
| | % Achievement | 100.01 | 94.43 | 101.45 | 101.58 | 99.47 |
| Nuclear | Programme (BU) | 6.40 | 6.33 | 6.22 | 6.18 | 25.13 |
| | Achievement (BU) | 7.89 | 8.12 | 7.80 | 8.46 | 32.27 |
| | % Achievement | 123.23 | 128.34 | 125.39 | 136.89 | 128.41 |
| Hydro | Programme (BU) | 25.91 | 38.15 | 26.30 | 21.69 | 112.05 |
| | Achievement (BU) | 32.20 | 47.90 | 27.45 | 22.89 | 130.43 |
| | % Achievement | 124.28 | 125.55 | 104.38 | 105.49 | 116.40 |
| Bhutan Import | Programme (BU) | 1.05 | 3.06 | 1.25 | 0.23 | 5.59 |
| | Achievement (BU) | 1.03 | 2.96 | 1.06 | 0.23 | 5.28 |
| | % Achievement | 97.96 | 96.89 | 84.98 | 101.19 | 94.60 |
| Total | Programme (BU) | 209.25 | 215.96 | 213.82 | 215.97 | 855.00 |
| | Achievement (BU) | 217.04 | 218.02 | 218.97 | 222.41 | 876.44 |
| | % Achievement | 103.72 | 100.96 | 102.41 | 102.98 | 102.51 |

The Quarter-wise details of targets and actual generation in different sectors and categories is given in **Annex-I**.

The actual generation achieved in various regions of the country with reference to target is given in the table below:

| **Region** | **Target (BU)** | **Actual (BU)** | **% of Target** |
|---|---|---|---|
| Northern | 235.99 | 253.33 | 107.35 |
| Western | 271.15 | 280.76 | 103.55 |
| Southern | 193.38 | 199.04 | 102.93 |
| Eastern | 140.35 | 129.70 | 92.41 |
| North –Eastern | 8.54 | 8.31 | 97.34 |
| Bhutan Import | 5.59 | 5.28 | 94.60 |
| **Total (All India)** | **855.00** | **876.44** | **102.51** |

The generation in all the regions except Eastern and North –Eastern Region were above their respective targets. In the Northern region actual generation exceeded the target by 7.35%. As may be observed from there, the shortfall has been largest in case of Eastern Region. Main reasons for lower generation in the Eastern Region were on account of shortfall in generation with respect to their respective targets by Bokaro TPS (0.2 BU), Kodarama TPS (0.8 BU) and Mejia TPS (1.2 BU) of DVC, Farrakka TPS (2.8 BU), Talcher STPS (1.2 BU), Kahalgaon TPS (3.2 BU), Muzaffpur (0.3 BU). Reasons for short fall in generation with respect to their respective targets was mainly due to shortage of coal, delay in commissioning/ stabilization of new units and increased outages. The region wise and category wise targets and actual generation is given in **Annex-II.**

### 3. Growth Rate

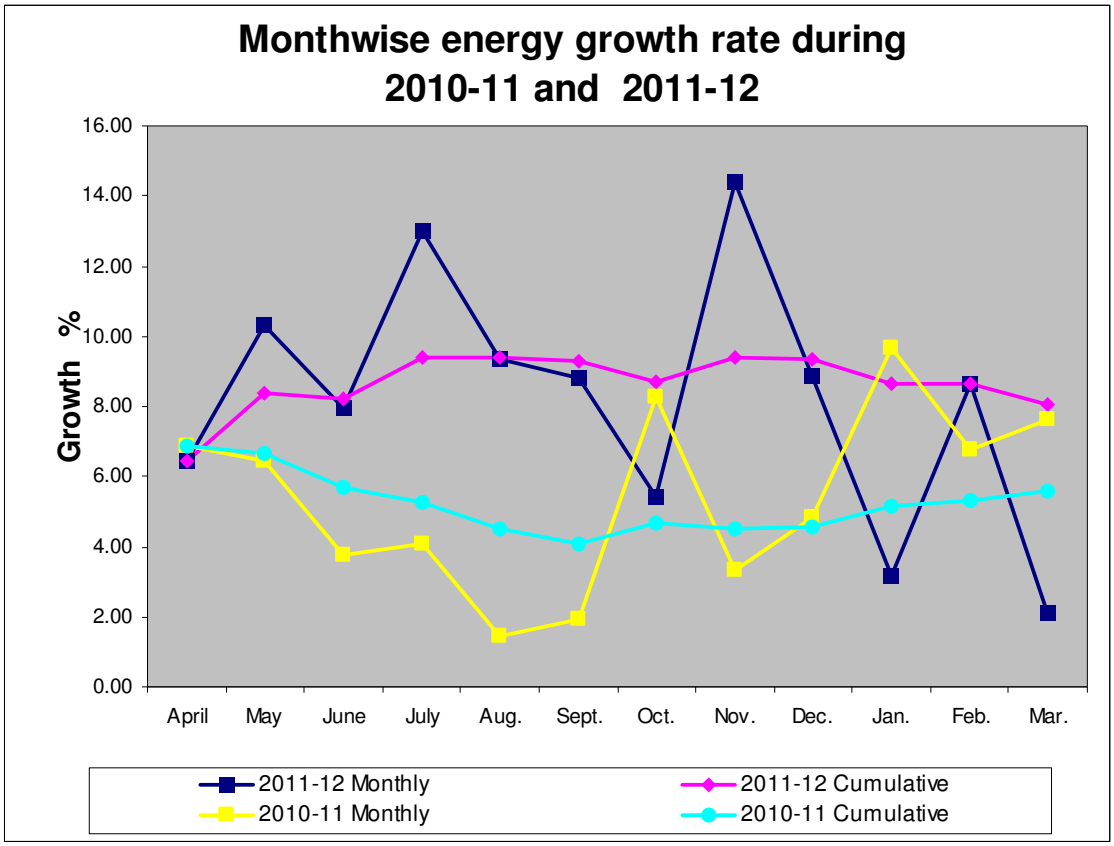
The growth rate of energy generation in the country since 2001-02 is given below:

| Plan | Financial year | Generation (BU) | Annual Growth (%) | CAGR (%) |
|---|---|---|---|---|
| IX Plan | 2001-02 | 515.3 | 3.1 | |
| X Plan | 2002-03 | 531.6 | 3.2 | 5.16 |
| | 2003-04 | 558.3 | 5.0 | |
| | 2004-05 | 587.4 | 5.2 | |
| | 2005-06 | 617.5 | 5.1 | |
| | 2006-07 | 662.5 | 7.3 | |
| XI Plan | 2007-08 | 704.5 | 6.3 | 5.76 |
| | 2008-09 | 723.8 | 2.7 | |

| Plan | Financial year | Generation (BU) | Annual Growth (%) | CAGR (%) |
|---|---|---|---|---|
| | 2009-10 | 771.2 | 6.6 | |
| | 2010-11 | 811.1 | 5.6 | |
| | 2011-12 | 876.4 | 8.1 | |

Note: *Generation excludes generation from plants up to 25 MW Capacity from 1st April 2010 onwards.*

The variations in the monthly and cumulative growth rates achieved in energy generation during the year 2011-12 and 2010-11 are presented in the figure below:




The Quarter-wise growth rate of energy generation from Thermal, Nuclear & Hydro stations and imports from Bhutan were as shown below:

| Particulars | Item | 2011-12 | | | | |
|---|---|---|---|---|---|---|
| | | Qtr.1 | Qtr.2 | Qtr.3 | Qtr.4 | Yearly Total |
| Thermal | 2011-12 | 175.91 | 159.05 | 182.66 | 190.83 | 708.45 |
| | 2010-11 | 166.49 | 151.23 | 167.14 | 180.15 | 665.01 |
| | % Growth rate | **5.66** | **5.16** | **9.29** | **5.93** | **6.53** |
| Nuclear | 2011-12 | 7.89 | 8.12 | 7.80 | 8.46 | 32.27 |
| | 2010-11 | 5.25 | 5.63 | 6.97 | 8.41 | 26.27 |
| | % Growth rate | **50.27** | **44.34** | **11.79** | **0.55** | **22.86** |
| Hydro | 2011-12 | 32.20 | 47.90 | 27.45 | 22.89 | 130.43 |
| | 2010-11 | 27.72 | 37.60 | 24.85 | 24.09 | 114.26 |

| Particulars | Item | 2011-12 | | | | |
|---|---|---|---|---|---|---|
| | | Qtr.1 | Qtr.2 | Qtr.3 | Qtr.4 | Yearly Total |
| | % Growth rate | **16.16** | **27.38** | **10.47** | **-4.99** | **14.16** |
| Bhutan Import | 2011-12 | 1.03 | 2.96 | 1.06 | 0.23 | 5.28 |
| | 2010-11 | 1.05 | 3.06 | 1.25 | 0.25 | 5.61 |
| | % Growth rate | **-2.07** | **-3.08** | **-14.98** | **-9.22** | **-5.82** |
| Total | 2011-12 | 217.04 | 218.02 | 218.97 | 222.41 | 876.44 |
| | 2010-11 | 200.52 | 197.52 | 200.21 | 212.90 | 811.14 |
| | % Growth rate | **8.24** | **10.38** | **9.37** | **4.46** | **8.05** |

The Quarter-wise detail of growth rate of energy generation in different sectors and categories is given in **Annex-III**.

Region wise and category wise growth in power generation during the Year 2011-12 is given at **Annex-IV**. The Region-wise growth rate was as under:

| Region | Actual 2011-12 (BU) | Last Year 2010-11 (BU) | Growth Rate (%) |
|---|---|---|---|
| **Northern** | **253.33** | **230.57** | **9.87** |
| **Western** | **280.76** | **262.05** | **7.14** |
| **Southern** | **199.05** | **183.84** | **8.27** |
| **Eastern** | **129.70** | **120.73** | **7.43** |
| **North -Eastern** | **8.31** | **8.34** | **-0.33** |
| **Bhutan Import** | **5.28** | **5.61** | **-5.82** |
| **Total (All India)** | **876.43** | **811.14** | **8.05** |

## 4. Performance of Thermal Units

### 4.1. Fuel wise Break up

Although the coal based generation has exceeded its yearly generation target set for the year 2011-12 by 6.83 BU (1.18%), however there was a shortfall of 3.78 BU (0.53%) in thermal generation. In view of improved generation by Nuclear and Hydro power stations the requirement for costly power from coal based TPS, gas, liquid fuel and DG sets reduced. Thus low schedules for gas based generation coupled with the problem of gas supply shortages to various gas based stations, the gas based generation had a negative growth.

The details of fuel-wise break-up of thermal generating units during the year 2011-12 are given below:

| Particulars | Targets (BU) | Actual Generation | Actual Generat | Growth | PLF (%) |
|---|---|---|---|---|---|

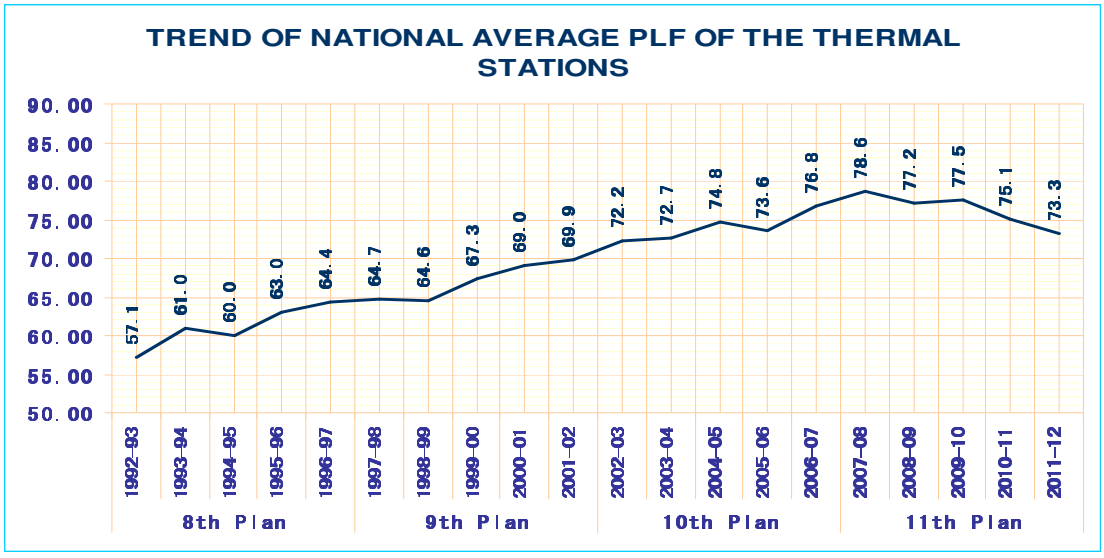
| | | | | | 2011-12 | 2010-11 |
|---|---|---|---|---|---|---|
| Coal | 577.76 | 584.59 | 535.34 | 9.20 | 73.46 | 75.25 |
| Lignite | 28.26 | 28.09 | 26.42 | 6.35 | 70.89 | 73.82 |
| Gas Turbine (gas) | 99.97 | 92.26 | 97.77 | -5.64 | | |
| Gas Turbine (liquid fuel) | 2.79 | 1.05 | 2.49 | -57.57 | 59.91 | 66.15 |
| Diesel | 3.45 | 2.46 | 2.99 | -17.85 | | |
| **Total (Thermal)** | **712.23** | **708.45** | **665.01** | **6.53** | **73.29** | **74.97** |

The analysis of the shortfall in Thermal generation has been presented in Para 9.

### 4.2. National average PLF

The average Plant Load Factor (PLF) achieved during the year was 73.29 % as compared to 75.08 % in the previous year. 55 numbers of Plants with an aggregate installed capacity of 57282.5 MW achieved PLF greater than the national average PLF. List of these stations is given at **Annex-V**.

The trend of national average PLF of the thermal stations since 1992-93 onwards is represented in the graph below:




Main reasons of reduction in Plant load factor of coal/lignite based thermal power stations during 2011-12 were as under:

- During the financial year 2011-12, capacity addition of 20501 MW was achieved out of which 19079 MW capacity additions were by Coal/Lignite based plants. Many of the newly commissioned units commissioned during the XI plan could not generate on account of various problems such as Coal shortages, transmission constraints etc faced by these units. Some new units of IPPs were although commissioned and were declared for commercial operation, could not even achieve the current year's national

average PLF of 73.29% on account of inherent stabilization problems. The PLF achieved by new coal/ lignite based units, commissioned during the XI plan, along with the main reasons of having low PLF are given at **Annex-VI**.

- The generation loss reported so far due to coal supply shortages during 2011-12 has also increased to 8.82 BU from 7.3 BU for the same period last year.
- The generation loss due to poor/wet coal has so far been reported as 5.94 BU during 2011-12.
- The generation loss of 1.17 BU has so far been reported due to transmission constraints.
- Loss of generation of about 9.68 BU due to low schedule from beneficiaries during the period April'11- March'12 has been reported so far.

### 4.3. Number of stations operating above 90% PLF

During the year only 15 numbers of thermal power stations with an aggregate installed capacity of 20420 MW operated above 90% PLF as compared to 19 stations with an aggregate installed capacity of 21995 MW of stations during previous year. The no of units operated above 90% PLF has reduced due to above mentioned reasons for low PLF along with higher availability from hydro and nuclear generation. List of the coal based stations operated above 90% PLF is given at **Annex-VII.** Number of coal/lignite based thermal power stations operated above 90% PLF during last 6 years is given below:

| Year | No. of Station | Corresponding Installed Capacity (MW) |
|---|---|---|
| 2006-07 | 16 | 14370 |
| 2007-08 | 22 | 24013 |
| 2008-09 | 18 | 20590 |
| 2009-10 | 21 | 25238 |
| 2010-11 | 19 | 21995 |
| 2011-12 | 15 | 20420 |

## 4.4. Operating Availability of thermal stations

During the year 2011-12, operational availability of thermal stations has reduced to 82.5 % as compared to 84.2 % during the previous year. It was mainly due to

- increased forced outages of thermal units,
- unscheduled / extended planned maintenance of some of the thermal units ,
- forced shut down of some thermal units due to coal shortages and receipt of poor quality / wet coal ,
- and shut down of some thermal units due to receipt of lower schedule from the beneficiary states,

The operating availability of thermal plants during the last five years is given below:

| Year | Planned Maintenance (%) | Forced Outage (%) | Operational Availability (%) |
|---|---|---|---|
| 2007-08 | 7.5 | 7.7 | 84.8 |
| 2008-09 | 5.7 | 9.3 | 85.1 |
| 2009-10 | 6.1 | 8.9 | 85.1 |
| 2010-11 | 5.8 | 10.0 | 84.2 |
| 2011-12* | 5.2 | 12.3 | 82.5 |

*tentative

## 4.5. Maximum PLF

During the year 2011-12, Dahanu TPS (500 MW) of M/s Reliance Energy Limited recorded a PLF of **101.34** %.

## 5. Gas Based Generation

During the year 2011-12 the gas & liquid fuel based energy generation suffered from the problem of lower system demand mainly on account of sudden drop in the domestic & agricultural demands due to better availability of water, better weather conditions & increased thermal, hydro and nuclear generations coupled with problems of shortage in supply of gas. Being comparatively costly power, gas stations were forced to shut down/ backed down GTs due to receipt of lower schedule from the beneficiary states As a result, the growth rate of gas based generation fallen sharply throughout the year. The PLF of gas based plants also fell considerably from 67.16 % (achieved in April'2011) to merely 51.87 % during the month of February 12.

Comparison of month wise energy generation of gas based plants in the country and their average PLF during the year 2011-12 with the energy generation and PLF% during the corresponding months in the year 2010-11 and month wise growth rate has been given in the table below :

| Month | 2011-12 | | | 2010-11 | | | Growth (%) |
|---|---|---|---|---|---|---|---|
| | IC (MW) | Generation* (BU) | PLF (%) | IC (MW) | Generation* (BU) | PLF (%) | |
| Apr | 17652 | 8.54 | 67.16 | 17001 | 9.46 | 77.29 | -9.77 |
| May | 17652 | 8.31 | 63.30 | 17001 | 9.17 | 72.52 | -9.34 |
| Jun | 17652 | 7.94 | 62.46 | 17001 | 8.48 | 69.29 | -6.39 |
| Jul | 17652 | 7.97 | 60.71 | 17299 | 8.17 | 63.5 | -2.41 |
| Aug | 17652 | 7.72 | 58.78 | 17320 | 8.15 | 63.24 | -5.27 |
| Sep | 17688 | 7.38 | 57.93 | 17320 | 7.66 | 61.43 | -3.69 |
| Oct | 17688 | 8.57 | 65.12 | 17320 | 9.06 | 70.33 | -5.40 |
| Nov | 17688 | 7.87 | 61.82 | 17570 | 7.43 | 58.7 | 5.96 |
| Dec | 17688 | 8.00 | 60.82 | 17330 | 8.38 | 65 | -4.49 |
| Jan | 17688 | 7.28 | 55.31 | 17402 | 8.49 | 65.55 | -14.26 |
| Feb | 18039 | 6.51 | 51.87 | 17402 | 7.42 | 63.45 | -12.23 |
| Mar | 18039 | 7.22 | 53.77 | 17652 | 8.38 | 63.81 | -13.88 |
| **Annual** | | **93.31** | **59.91** | | **100.26** | **66.15** | **-6.93** |

** Generation excludes generation from plants up to 25 MW Capacity.*

There was a shortage in availability of gas. This resulted in loss of generation of power. In case of gas based power stations having provision for the use of alternate fuels, such as naphtha, HSD, generation was augmented by use of such fuels. On account of the prevailing high cost of liquid fuels resulting in high cost of generation, the actual generation using these fuels was, however, dependent upon the requirement/acceptance by the beneficiaries. Loss of generation due to shortage in availability of gas as reported to CEA and based on possible operation of power plants at 90% PLF were as under:

| S. No. | Year | Generation Loss during the year (BUs) | |
|---|---|---|---|
| | | As reported to CEA by Gas Based Power Stations | Based on possible operation of gas power plants at 90% PLF |
| 1 | 2004-05 | 7.03 | 23.71 |
| 2 | 2005-06 | 7.69 | 23.88 |
| 3 | 2006-07 | 8.06 | 26.33 |
| 4 | 2007-08 | 9.34 | 31.17 |
| 5 | 2008-09 | 11.99 | 33.71 |
| 6 | 2009-10 | 3.24 | 25.02 |
| 7 | 2010-11 | 6.39 | 28.27 |
| 8 | **2011-12** | **9.52** | **36.71** |

The generation from gas based power Plants which have been allocated gas from the KG D-6 basin as also other gas/liquid fuel based plants (not serviced by KG D6 basin) has separately been given at **Annex - VIII**.

## 6. Performance of Nuclear Units

Nuclear generation registered a remarkable growth during the year 2011-12 mainly due to improved nuclear fuel conditions. Average PLF of 76.86 % in the year 2011-12 achieved by the nuclear plants is highest among last 7 years as detailed below:

| Year | Targets (BU) | Actual Generation (BU) | Achievement % | Growth | PLF (%) |
|---|---|---|---|---|---|
| 2005-06 | 16.80 | 17.24 | 102.62 | 4.78 | 63.20 |
| 2006-07 | 18.41 | 18.61 | 101.09 | 7.95 | 57.50 |
| 2007-08 | 22.71 | 16.78 | 73.89 | -9.83 | 46.40 |
| 2008-09 | 19.00 | 14.71 | 77.42 | -12.34 | 40.80 |
| 2009-10 | 19.00 | 18.64 | 98.11 | 26.72 | 51.10 |
| 2010-11 | 22.00 | 26.27 | 119.39 | 40.94 | 65.40 |
| 2011-12 | 25.13 | 32.27 | 128.41 | 22.86 | 76.86 |

Kakrapara APS (440 MW) achieved highest PLF of 97.97% with a growth rate of 162 % during 2011-12.

## 7. Performance of Hydro Stations

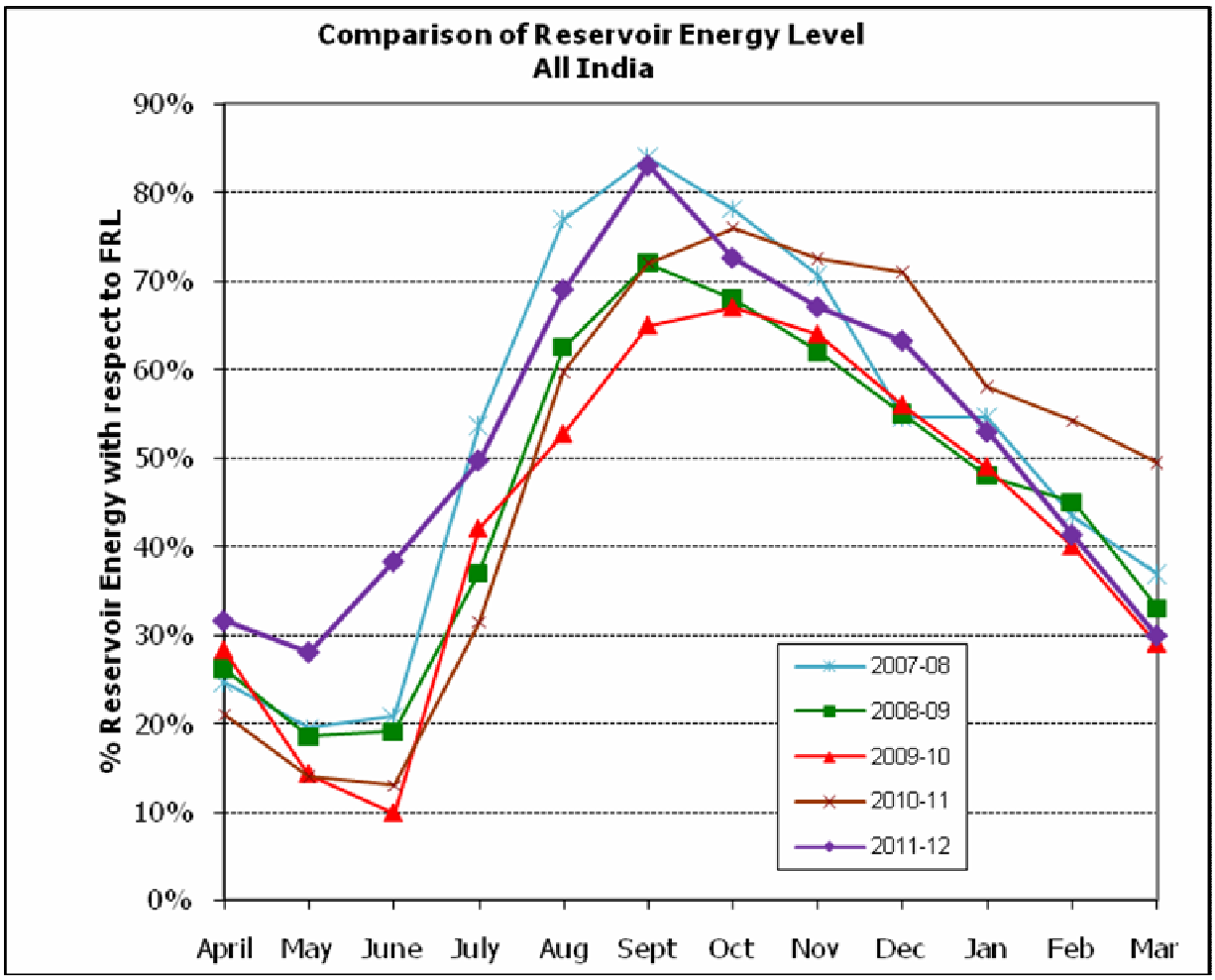
The hydro generation during the financial year 2011-12 has been 130.43 BU with a double digit growth rate of 14.15% over same period last year. Last year, the corresponding growth rate was 9.97 %. The annual electricity generation target of 112.05 BU from hydro plants for the financial year 2011-12 was achieved on 21$^{st}$ January, 2012 mainly on account of increased inflow. The yearly achievement has been 116.40 % of the yearly target. During the year 2011-12, the hydroelectric energy generation in the country also improved considerably on account of good monsoon for second consecutive year leading to improved inflows.

Region wise details are given below :-

| **Region** | **Hydro generation performance during 2011-12** | |
|---|---|---|
| | **% of Programme** | **% of last year's actual** |
| Northern | 120.15 | 115.04 |
| Western | 131.35 | 128.11 |
| Southern | 110.21 | 110.13 |
| Eastern | 102.78 | 106.52 |
| North Eastern | 91.35 | 96.85 |
| **Total (All India)** | **116.4** | **114.15** |

The storage position of the 31 major reservoirs in the country is monitored in CEA. These reservoirs feed hydroelectric stations having total installed generating capacity of 18,273MW which constitute about 49 % of the hydro capacity and 44.2 % in terms of their share in annual hydroelectric energy generation in the country. The

month wise (on the last day of the month) storage position of these reservoirs during 2011 -12 as compared to that obtained during the previous four years is shown graphically below.




The region-wise storage positions of energy content as on 31.03.2012 along with the comparison of the same with the last four years is given at **Annex-IX**. The total energy content of 31 reservoirs at 10.09 BU on 31st March'12 is about 40 % lower than the energy content of 16.74 BU on the same day last year.

The reservoirs positions in the five Regions of the country are summarized below:

| Region | No. of schemes | Installed Capacity (MW) | Design Energy (BU) | Energy Content at FRL (BU) | Energy Content on 31.03.2012 | | Energy Content Last Year on same day | | % variation with reference to last year on same day |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | (BU) | % of Energy at FRL | (BU) | % of Energy at FRL | |
| Northern | 7 | 3,991 | 12.54 | 6.01 | 1.48 | 25% | 3.87 | 64% | -62% |
| Western | 6 | 4,980 | 13.91 | 8.42 | 2.96 | 35% | 3.85 | 46% | -23% |
| Southern | 12 | 7,201 | 20.43 | 15.81 | 4.94 | 31% | 6.80 | 43% | -27% |
| Eastern | 5 | 2,012 | 5.68 | 3.30 | 0.47 | 14% | 2.16 | 66% | -78% |
| North Eastern | 1 | 90 | 0.45 | 0.25 | 0.25 | 100% | 0.06 | 25% | 308% |
| All India | 31 | 18,273 | 53.01 | 33.79 | 10.09 | 30% | 16.74 | 50% | -40% |

## 8. Performance of Central Sector utilities

### Thermal

The Central Sector Utilities have generated 281.1 BU from their thermal stations against the target of 279.6 BU representing achievement of 100.55 %. The performance of the various Central Sector Utilities in the thermal power generation is given below:

| Organization | Target (BU) | Actual Generation (BU) | Achievement (%) | Reasons for low generation |
|---|---|---|---|---|
| APCPL | 2.196 | 2.422 | 110.27 | |
| DVC | 21.493 | 19.523 | 90.84 | Delay in stabilization of units, shortage of coal, increased forced outages |
| K.B.U.N.L | 0.500 | 0.207 | 41.48 | One unit is under R&M and other forced out due to coal feeding problem, financial constraints. |
| NEEPCO. | 2.336 | 2.431 | 104.08 | |
| NLC | 17.906 | 18.762 | 104.78 | |
| NSPCL | 2.840 | 3.978 | 140.07 | |
| NTPC Ltd. | 222.813 | 222.061 | 99.66 | Shortage of coal at Kahalgaon. |
| RGPPL | 9.477 | 11.725 | 123.72 | |
| **Central Sector- (thermal)** | **279.561** | **281.109** | **100.55** | |

### Hydro

In case of hydro, the total Central Sector Utilities generation is 50.6 BU against the target of 42.8 BU representing an achievement of 118.4 %. The performance of the various Central Sector Utilities in hydro power generation is given below:

| Organization | Target (BU) | Actual Generation (BU) | Achievement (%) |
|---|---|---|---|
| BBMB | 10.023 | 12.455 | 124.27 |
| DVC | 0.125 | 0.296 | 236.78 |
| NEEPCO. | 2.627 | 2.378 | 90.52 |
| NHDC | 3.165 | 4.661 | 147.28 |
| NHPC | 17.104 | 18.658 | 109.09 |
| SJVNL | 6.500 | 7.610 | 117.08 |
| THDC | 3.235 | 4.589 | 141.87 |
| **Central Sector- (hydro)** | **42.779** | **50.648** | **118.40** |

The generation performance of utilities in the central sector, private sector and state sector is given in **Annex-X**.

## 9. Analysis of the shortfall in thermal generation

The total generation during the year 2011-12 has achieved a growth rate of 8.05 %, it exceeded target by 21.43 BU (2.51%). Although the thermal generation fell short by 3.7BU (0.53%), the nuclear and hydro generation exceeded their targets by 7.2 BU (28.41%) and 18.3 BU (16.40%) respectively. Gas based thermal generation alone suffered a shortfall of about 7.7BU.

Loss of generation due to delay in commissioning/stabilization of some new thermal units during the year 2011-12 was 11.05 BU (details given at **Annex-XI**). However this loss was offset up to some extent (13.83 BU) by some of the newly commissioned units which achieved higher generation with respect to targets set for them (details given at **Annex-XI**).

A statement indicating the thermal generating stations suffering shortfall in generation exceeding 100 MU along with the reasons thereof is attached at **Annex-XII**.

Loss of generation in due to various reasons is represented in following tabular form:

| Sl. No. | Category | Energy (BU) |
|---|---|---|
| **Shortfall in Generation – Reasons** | | |
| 1 | Loss of generation due to shortage of coal (information received so far) | 8.82 |
| 2 | Loss of generation due to poor quality coal (information received so far) | 5.94 |
| 3 | Loss of generation due to backing down/shut down of units on account of low schedule from beneficiary states | 9.68 |
| 4 | Loss of generation due to backing down/shut down of units on account of transmission constraints | 1.17 |
| 5 | Loss of generation on account of gas shortage (as reported by utilities ) | 9.52 |
| **Total Loss of thermal generation on a/c of above reasons** | | **35.13** |

# ANNEXES

**Annex - I**

## Quarterly (Sector wise and Fuel wise)Generation vis-à-vis Targets during 2011-12

**A. Sector wise**

| Particulars | Item | Qtr.1 | Qtr.2 | Qtr.3 | Qtr.4 | I to II Qtr | I to III qtr | Yearly Total |
|---|---|---|---|---|---|---|---|---|
| Central | Programme (BU) | 87.11 | 88.76 | 84.64 | 86.96 | 175.87 | 260.51 | 347.47 |
| | Achievement (BU) | 90.91 | 93.25 | 88.01 | 91.86 | 184.16 | 272.17 | 364.03 |
| | **% Achievement** | **104.37** | **105.05** | **103.98** | **105.63** | **104.71** | **104.48** | **104.77** |
| State | Programme (BU) | 87.75 | 88.24 | 91.76 | 92.02 | 175.99 | 267.74 | 359.76 |
| | Achievement (BU) | 90.90 | 87.89 | 94.40 | 94.38 | 178.79 | 273.19 | 367.57 |
| | **% Achievement** | **103.59** | **99.61** | **102.88** | **102.57** | **101.60** | **102.04** | **102.17** |
| Private IPPs | Programme (BU) | 26.21 | 28.76 | 29.44 | 30.18 | 54.98 | 84.42 | 114.60 |
| | Achievement (BU) | 26.98 | 26.94 | 28.41 | 29.56 | 53.92 | 82.33 | 111.89 |
| | **% Achievement** | **102.94** | **93.66** | **96.49** | **97.95** | **98.08** | **97.53** | **97.64** |
| Private Utilities | Programme (BU) | 7.13 | 7.14 | 6.73 | 6.58 | 14.27 | 21.00 | 27.59 |
| | Achievement (BU) | 7.21 | 6.98 | 7.09 | 6.37 | 14.19 | 21.28 | 27.66 |
| | **% Achievement** | **101.06** | **97.82** | **105.35** | **96.84** | **99.44** | **101.33** | **100.26** |
| Import from Bhutan | Programme (BU) | 1.05 | 3.06 | 1.25 | 0.23 | 4.11 | 5.36 | 5.59 |
| | Achievement (BU) | 1.03 | 2.96 | 1.06 | 0.23 | 3.99 | 5.06 | 5.28 |
| | **% Achievement** | **97.96** | **96.89** | **84.98** | **101.19** | **97.17** | **94.32** | **94.60** |
| Total | Programme (BU) | 209.25 | 215.96 | 213.82 | 215.97 | 425.21 | 639.03 | 855.00 |
| | Achievement (BU) | 217.04 | 218.02 | 218.97 | 222.41 | 435.06 | 654.03 | 876.44 |
| | **% Achievement** | **103.72** | **100.96** | **102.41** | **102.98** | **102.32** | **102.35** | **102.51** |

**B. Fuel wise ( Thermal)**

| Particulars | Item | Qtr.1 | Qtr.2 | Qtr.3 | Qtr.4 | I to II Qtr | I to III qtr | Yearly Total |
|---|---|---|---|---|---|---|---|---|
| Coal | Programme (BU) | 142.35 | 135.94 | 146.87 | 152.59 | 278.30 | 425.17 | 577.76 |
| | Achievement (BU) | 143.44 | 129.51 | 151.02 | 160.61 | 272.96 | 423.98 | 584.58 |
| | **% Achievement** | **100.76** | **95.27** | **102.82** | **105.25** | **98.08** | **99.72** | **101.18** |
| Lignite | Programme (BU) | 7.28 | 6.42 | 6.65 | 7.91 | 13.70 | 20.35 | 28.26 |
| | Achievement (BU) | 6.96 | 6.06 | 6.51 | 8.56 | 13.02 | 19.53 | 28.09 |
| | **% Achievement** | **95.54** | **94.45** | **97.95** | **108.23** | **95.03** | **95.98** | **99.41** |
| Gas Turbine | Programme (BU) | 24.59 | 24.62 | 25.00 | 25.77 | 49.21 | 74.21 | 99.97 |
| | Achievement (BU) | 24.22 | 22.99 | 24.26 | 20.79 | 47.21 | 71.47 | 92.26 |
| | **% Achievement** | **98.49** | **93.41** | **97.04** | **80.68** | **95.95** | **96.32** | **92.29** |
| Gas Turbine (Liquid) | Programme (BU) | 0.77 | 0.64 | 0.66 | 0.73 | 1.41 | 2.07 | 2.80 |
| | Achievement (BU) | 0.57 | 0.08 | 0.19 | 0.22 | 0.65 | 0.83 | 1.05 |
| | **% Achievement** | **73.37** | **12.16** | **28.36** | **30.49** | **45.78** | **40.22** | **37.69** |
| Multifuel | Programme (BU) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Achievement (BU) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | **% Achievement** | | | | | | | |
| Diesel | Programme (BU) | 0.89 | 0.82 | 0.87 | 0.88 | 1.70 | 2.57 | 3.45 |
| | Achievement (BU) | 0.73 | 0.40 | 0.68 | 0.66 | 1.13 | 1.80 | 2.46 |
| | **% Achievement** | **81.82** | **49.04** | **78.31** | **74.54** | **66.13** | **70.24** | **71.34** |
| Total (Thermal) | Programme (BU) | 175.89 | 168.43 | 180.05 | 187.87 | 344.31 | 524.36 | 712.23 |
| | Achievement (BU) | 175.91 | 159.05 | 182.66 | 190.83 | 334.96 | 517.62 | 708.45 |
| | **% Achievement** | **100.01** | **94.43** | **101.45** | **101.58** | **97.28** | **98.71** | **99.47** |

Annex-II

**Region Wise and Category Wise Targets & Actual Generation in the Country During the Year 2011-12**

| Region/ Category | Target (MU) | Actual (MU) | % of Target |
|---|---|---|---|
| **NORTHERN REGION** | | | |
| Thermal | 173757.00 | 178163.31 | 102.54 |
| Nuclear | 8760.00 | 10917.42 | 124.63 |
| Hydro | 53474.07 | 64247.50 | 120.15 |
| **Total** | 235991.07 | 253328.23 | 107.35 |
| **WESTERN REGION** | | | |
| Thermal | 246627.00 | 247901.32 | 100.52 |
| Nuclear | 9874.00 | 13625.52 | 137.99 |
| Hydro | 14644.91 | 19236.78 | 131.35 |
| **Total** | 271145.91 | 280763.62 | 103.55 |
| **SOUTHERN REGION** | | | |
| Thermal | 156395.00 | 157711.63 | 100.84 |
| Nuclear | 6496.00 | 7726.83 | 118.95 |
| Hydro | 30493.04 | 33606.14 | 110.21 |
| **Total** | 193384.04 | 199044.60 | 102.93 |
| **EASTERN REGION** | | | |
| Thermal | 131047.00 | 120136.15 | 91.67 |
| Hydro | 9305.99 | 9565.00 | 102.78 |
| **Total** | 140352.99 | 129701.15 | 92.41 |
| **NORTH EASTERN REGION** | | | |
| Thermal | 4408.00 | 4538.63 | 102.96 |
| Hydro | 4131.99 | 3774.52 | 91.35 |
| **Total** | 8539.99 | 8313.15 | 97.34 |
| **BHUTAN IMPORT** | 5586.00 | 5284.27 | 94.6 |
| **ALL INDIA REGION** | | | |
| Thermal | 712234.00 | 708450.93 | 99.47 |
| Nuclear | 25130.00 | 32269.77 | 128.41 |
| Hydro | 112050.00 | 130429.69 | 116.4 |
| Bhutan Import | 5586.00 | 5284.27 | 94.6 |
| **Total** | 855000.00 | 876434.66 | 102.51 |

Annex-III

## Quarterly Growth rate during 2011-12 with respect to same period previous year

**A. Sector wise**

| Particulars | Item | Qtr.1 | Qtr.2 | Qtr.3 | Qtr.4 | I to II Qtr | I to III qtr | Yearly Total |
|---|---|---|---|---|---|---|---|---|
| Central | 2011-12 | 90.91 | 93.25 | 88.01 | 91.86 | 184.16 | 272.17 | 364.03 |
| | 2010-11 | 86.57 | 87.67 | 83.95 | 87.90 | 174.24 | 258.19 | 346.09 |
| | **% Growth rate** | **5.01** | **6.37** | **4.84** | **4.50** | **5.69** | **5.41** | **5.18** |
| State | 2011-12 | 90.90 | 87.89 | 94.40 | 94.38 | 178.79 | 273.19 | 367.57 |
| | 2010-11 | 84.13 | 78.50 | 86.42 | 94.25 | 162.63 | 249.05 | 343.30 |
| | **% Growth rate** | **8.05** | **11.96** | **9.23** | **0.14** | **9.94** | **9.69** | **7.07** |
| Private IPPs | 2011-12 | 26.98 | 26.94 | 28.41 | 29.56 | 53.92 | 82.33 | 111.89 |
| | 2010-11 | 20.95 | 21.15 | 21.97 | 24.38 | 42.10 | 64.07 | 88.45 |
| | **% Growth rate** | **28.81** | **27.39** | **29.29** | **21.25** | **28.10** | **28.51** | **26.51** |
| Private Utilities | 2011-12 | 7.21 | 6.98 | 7.09 | 6.37 | 14.19 | 21.28 | 27.66 |
| | 2010-11 | 7.82 | 7.15 | 6.61 | 6.12 | 14.96 | 21.58 | 27.69 |
| | **% Growth rate** | **-7.81** | **-2.28** | **7.24** | **4.24** | **-5.17** | **-1.37** | **-0.13** |
| Import from Bhutan | 2011-12 | 1.03 | 2.96 | 1.06 | 0.23 | 3.99 | 5.06 | 5.28 |
| | 2010-11 | 1.05 | 3.06 | 1.25 | 0.25 | 4.11 | 5.36 | 5.61 |
| | **% Growth rate** | **-2.07** | **-3.08** | **-14.98** | **-9.22** | **-2.82** | **-5.66** | **-5.82** |
| Total | 2011-12 | 217.04 | 218.02 | 218.97 | 222.41 | 435.06 | 654.03 | 876.44 |
| | 2010-11 | 200.52 | 197.52 | 200.21 | 212.90 | 398.04 | 598.24 | 811.14 |
| | **% Growth rate** | **8.24** | **10.38** | **9.37** | **4.46** | **9.30** | **9.33** | **8.05** |

**B. Fuel wise ( Thermal)**

| Particulars | Item | Qtr.1 | Qtr.2 | Qtr.3 | Qtr.4 | I to II Qtr | I to III qtr | Yearly Total |
|---|---|---|---|---|---|---|---|---|
| Coal | 2011-12 | 143.44 | 129.51 | 151.02 | 160.61 | 272.96 | 423.98 | 584.58 |
| | 2010-11 | 131.47 | 120.59 | 135.92 | 147.36 | 252.06 | 387.98 | 535.34 |
| | **% Growth rate** | **9.11** | **7.40** | **11.11** | **8.99** | **8.29** | **9.28** | **9.20** |
| Lignite | 2011-12 | 6.96 | 6.06 | 6.51 | 8.56 | 13.02 | 19.53 | 28.09 |
| | 2010-11 | 6.96 | 6.08 | 5.81 | 7.57 | 13.04 | 18.85 | 26.42 |
| | **% Growth rate** | **-0.09** | **-0.28** | **12.19** | **13.11** | **-0.18** | **3.63** | **6.35** |
| Gas Turbine | 2011-12 | 24.22 | 22.99 | 24.26 | 20.79 | 47.21 | 71.47 | 92.26 |
| | 2010-11 | 26.30 | 23.57 | 24.35 | 23.55 | 49.87 | 74.22 | 97.77 |
| | **% Growth rate** | **-7.91** | **-2.44** | **-0.37** | **-11.75** | **-5.33** | **-3.70** | **-5.64** |
| Gas Turbine (Liquid) | 2011-12 | 0.57 | 0.08 | 0.19 | 0.22 | 0.65 | 0.83 | 1.05 |
| | 2010-11 | 0.82 | 0.41 | 0.52 | 0.73 | 1.23 | 1.75 | 2.48 |
| | **% Growth rate** | **-30.41** | **-81.38** | **-64.10** | **-69.71** | **-47.59** | **-52.50** | **-57.57** |
| Multifuel | 2011-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 2010-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | **% Growth rate** | | | | | | | |
| Diesel | 2011-12 | 0.73 | 0.40 | 0.68 | 0.66 | 1.13 | 1.80 | 2.46 |
| | 2010-11 | 0.94 | 0.59 | 0.54 | 0.93 | 1.53 | 2.07 | 2.99 |
| | **% Growth rate** | **-23.05** | **-31.87** | **26.35** | **-29.30** | **-26.43** | **-12.71** | **-17.85** |
| Total (Thermal) | 2011-12 | 175.91 | 159.05 | 182.66 | 190.83 | 334.96 | 517.62 | 708.45 |
| | 2010-11 | 166.49 | 151.23 | 167.14 | 180.15 | 317.72 | 484.86 | 665.01 |
| | **% Growth rate** | **5.66** | **5.16** | **9.29** | **5.93** | **5.42** | **6.76** | **6.53** |

Annex-IV

## Growth in Power Generation Region Wise and Category Wise during the Year 2011-12

| Region/ Category | Generation 2011-12 (MU) | Generation Last Year | Growth (%) |
|---|---|---|---|
| **NORTHERN REGION** | | | |
| Thermal | 178163.31 | 165125.75 | 7.90 |
| Nuclear | 10917.42 | 9591.01 | 13.83 |
| Hydro | 64247.50 | 55849.77 | 15.04 |
| **Total** | 253328.23 | 230566.53 | 9.87 |
| **WESTERN REGION** | | | |
| Thermal | 247901.32 | 236474.62 | 4.83 |
| Nuclear | 13625.52 | 10563.07 | 28.99 |
| Hydro | 19236.78 | 15015.73 | 28.11 |
| **Total** | 280763.62 | 262053.42 | 7.14 |
| **SOUTHERN REGION** | | | |
| Thermal | 157711.63 | 147214.58 | 7.13 |
| Nuclear | 7726.83 | 6112.32 | 26.41 |
| Hydro | 33606.14 | 30515.61 | 10.13 |
| **Total** | 199044.60 | 183842.51 | 8.27 |
| **EASTERN REGION** | | | |
| Thermal | 120136.15 | 111749.83 | 7.50 |
| Hydro | 9565.00 | 8979.16 | 6.52 |
| **Total** | 129701.15 | 120728.99 | 7.43 |
| **NORTH EASTERN REGION** | | | |
| Thermal | 4538.63 | 4443.35 | 2.14 |
| Hydro | 3774.52 | 3897.09 | -3.15 |
| **Total** | 8313.15 | 8340.44 | -0.33 |
| **BHUTAN IMPORT** | 5284.27 | 5610.90 | -5.82 |
| **ALL INDIA REGION** | | | |
| Thermal | 708450.93 | 665008.13 | 6.53 |
| Nuclear | 32269.77 | 26266.40 | 22.86 |
| Hydro | 130429.69 | 114257.36 | 14.15 |
| Bhutan Import | 5284.27 | 5610.90 | -5.82 |
| **All India (Total)** | 876434.66 | 811142.79 | 8.05 |

## List of Thermal Power Stations (Coal / Lignite) which achieved PLF above National average PLF of 73.29 % during the year 2011-12.

| S.No | Station | Capacity (MW) | PLF(%) |
|---|---|---|---|
| 1 | DAHANU TPS | 500.00 | 101.34 |
| 2 | OP JINDAL TPS | 1000.00 | 97.75 |
| 3 | TORANGALLU TPS(SBU-I) | 260.00 | 96.06 |
| 4 | GH TPS (LEH.MOH.) | 920.00 | 94.31 |
| 5 | SIPAT STPS | 2320.00 | 93.93 |
| 6 | RAMAGUNDEM STPS | 2600.00 | 93.09 |
| 7 | SIMHADRI | 2000.00 | 92.78 |
| 8 | METTUR TPS | 840.00 | 92.77 |
| 9 | KOTA TPS | 1240.00 | 92.45 |
| 10 | RIHAND STPS | 2000.00 | 92.09 |
| 11 | Dr. N.TATA RAO TPS | 1760.00 | 91.57 |
| 12 | BHILAI TPS | 500.00 | 90.57 |
| 13 | TALCHER (OLD) TPS | 470.00 | 90.53 |
| 14 | VINDHYACHAL STPS | 3260.00 | 90.40 |
| 15 | BUDGE BUDGE TPS | 750.00 | 90.16 |
| 16 | UNCHAHAR TPS | 1050.00 | 89.82 |
| 17 | DADRI (NCTPP) | 1820.00 | 88.89 |
| 18 | SINGRAULI STPS | 2000.00 | 88.70 |
| 19 | TANDA TPS | 440.00 | 88.08 |
| 20 | RAYALASEEMA TPS | 1050.00 | 87.99 |
| 21 | SOUTHERN REPL. TPS | 135.00 | 87.39 |
| 22 | KORBA-WEST TPS | 840.00 | 87.18 |
| 23 | ROPAR TPS | 1260.00 | 86.41 |
| 24 | NEYVELI TPS-II | 1470.00 | 85.87 |
| 25 | TUTICORIN TPS | 1050.00 | 85.57 |
| 26 | SABARMATI (D-F STATIONS) | 340.00 | 85.37 |
| 27 | NORTH CHENNAI TPS | 630.00 | 84.80 |
| 28 | NEYVELI TPS(Z) | 250.00 | 84.35 |
| 29 | BAKRESWAR TPS | 1050.00 | 83.71 |
| 30 | KOTHAGUDEM TPS (NEW) | 1000.00 | 83.55 |
| 31 | TALCHER STPS | 3000.00 | 83.00 |
| 32 | RAMAGUNDEM - B TPS | 62.50 | 82.67 |
| 33 | NEYVELI ( EXT) TPS | 420.00 | 82.47 |
| 34 | PANIPAT TPS | 1360.00 | 81.49 |

| S.No | Station | Capacity (MW) | PLF(%) |
|---|---|---|---|
| 35 | ANPARA TPS | 1630.00 | 81.48 |
| 36 | KORBA-II | 200.00 | 81.40 |
| 37 | TITAGARH TPS | 240.00 | 81.30 |
| 38 | SURATGARH TPS | 1500.00 | 80.86 |
| 39 | KHAPARKHEDA TPS | 1340.00 | 80.03 |
| 40 | IB VALLEY TPS | 420.00 | 79.95 |
| 41 | TORANGALLU TPS(SBU-II) | 600.00 | 79.80 |
| 42 | WANAKBORI TPS | 1470.00 | 79.37 |
| 43 | KOTHAGUDEM TPS | 720.00 | 79.01 |
| 44 | KORBA STPS | 2600.00 | 78.95 |
| 45 | SAGARDIGHI TPS | 600.00 | 77.43 |
| 46 | KORBA-III | 240.00 | 77.24 |
| 47 | BADARPUR TPS | 705.00 | 77.04 |
| 48 | CHHABRA TPP | 500.00 | 76.56 |
| 49 | SABARMATI (C STATION) | 60.00 | 76.49 |
| 50 | JOJOBERA TPS | 360.00 | 76.26 |
| 51 | JSW RATNAGIRI TPP | 1200.00 | 76.01 |
| 52 | PATHADI TPP | 600.00 | 75.93 |
| 53 | NEYVELI TPS- I | 600.00 | 75.64 |
| 54 | ROSA TPP Ph-I | 1200.00 | 75.37 |
| 55 | UKAI TPS | 850.00 | 75.06 |
| **Total** | | **57282.50** | |

## Plant load factor of thermal units commissioned during XI Plan ( 2007-08 to 2011-12)

| Fin. Year | Sector | Utility | Station name | Unit No. | Date of commissioning | Date of stabilization | capacity (MW) | PLF % during 2011-12 | Resons for low PLF% |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| **2007-08** | **CENTRAL** | DVC | MEJIA TPS | 6 | 1-Oct-07 | 1-Apr-08 | 250 | 84.55 | |
| | | NTPC Ltd. | KAHALGAON TPS | 6 | 16-Mar-08 | 1-Oct-08 | 500 | 56.47 | Coal shortages |
| | | | SIPAT STPS | 4 | 27-May-07 | 1-Dec-07 | 500 | 101.21 | |
| | | **CENTRAL Total** | | | | | 1250 | 80.74 | |
| | **PVT** | JPL | OP JINDAL TPS | 1 | 2-Sep-07 | 1-Apr-09 | 250 | 93.12 | |
| | | | OP JINDAL TPS | 2 | 6-Mar-08 | 1-Apr-09 | 250 | 101.23 | |
| | | | OP JINDAL TPS | 3 | 10-Feb-08 | 1-Apr-09 | 250 | 96.58 | |
| | | **PVT Total** | | | | | 750 | 96.98 | |
| | **STATE** | APGENCO | RAYALASEEMA TPS | 4 | 20-Nov-07 | 1-Jun-08 | 210 | 90.41 | |
| | | CSPGCL | DSPM TPS | 2 | 11-Dec-07 | 1-Jul-08 | 250 | 58.79 | Forced outage ( generator transformer burnt) from 21.06.2011 to 12.10. 2011. Subsequently unit operating with lower capacity GT. |
| | | DPL | D.P.L. TPS | 7 | 24-Nov-07 | 1-Jun-08 | 300 | 31.18 | Turbine Rotor Damaged |
| | | HPGCL | YAMUNA NAGAR TPS | 1 | 13-Nov-07 | 1-May-08 | 300 | 91.99 | |
| | | | YAMUNA NAGAR TPS | 2 | 29-Mar-08 | 1-Sep-08 | 300 | 30.91 | Misc Turbine related forced outages |
| | | KPCL | BELLARY TPS | 1 | 3-Dec-07 | 1-Jun-08 | 500 | 70.05 | poor quality coal and multiple tube leakage problems,Annual Maintance |
| | | MAHAGENCO | PARAS TPS | 3 | 31-May-07 | 1-Dec-07 | 250 | 63.59 | Oct. November coal shortage, poor quality coal,Annual Maintance |
| | | MPPGCL | SANJAY GANDHI TPS | 5 | 18-Jun-07 | 1-Jan-08 | 500 | 84.83 | |
| | | PSPCL | GH TPS (LEH.MOH.) | 3 | 3-Jan-08 | 1-Aug-08 | 250 | 96.71 | |
| | | WBPDC | BAKRESWAR TPS | 4 | 23-Dec-07 | 1-Jul-08 | 210 | 84.76 | |
| | | | SAGARDIGHI TPS | 1 | 21-Dec-07 | 1-Jul-08 | 300 | 80.56 | |
| | | | SANTALDIH TPS | 5 | 7-Nov-07 | 1-Jun-08 | 250 | 83.81 | |
| | | **STATE Total** | | | | | 3620 | 72.30 | |
| | **2007-08 Total** | | | | | | **5620** | **77.82** | |
| | | | | | | | | | |
| **2008-09** | **CENTRAL** | NSPCL | BHILAI TPS | 1 | 20-Apr-08 | 1-May-09 | 250 | 91.08 | |
| | | NTPC Ltd. | SIPAT STPS | 5 | 13-Aug-08 | 1-Mar-09 | 500 | 96.50 | |
| | | **CENTRAL Total** | | | | | 750 | 93.79 | |
| | **PVT** | JPL | OP JINDAL TPS | 4 | 17-Jun-08 | 1-Apr-09 | 250 | 100.07 | |
| | | TATA PCL | TROMBAY TPS | 8 | 26-Mar-09 | 1-Apr-09 | 250 | 77.39 | |
| | | **PVT Total** | | | | | 500 | 88.73 | |
| | **STATE** | MPPGCL | AMARKANTAK EXT TPS | 3 | 15-Jun-08 | 1-Jan-09 | 210 | 94.00 | |
| | | PSPCL | GH TPS (LEH.MOH.) | 4 | 31-Jul-08 | 1-Feb-09 | 250 | 88.12 | |
| | | WBPDC | SAGARDIGHI TPS | 2 | 20-Jul-08 | 1-Feb-09 | 300 | 74.30 | |
| | | **STATE Total** | | | | | | 85.47 | |
| | **2008-09 Total** | | | | | | **2010** | **88.78** | |
| | | | | | | | | | |
| **2009-10** | **CENTRAL** | DVC | CHANDRAPURA(DVC) TPS | 7 | 4-Nov-09 | 1-Dec-11 | 250 | 86.29 | |
| | | | CHANDRAPURA(DVC) TPS | 8 | 31-Mar-10 | 1-Aug-11 | 250 | 40.96 | HP heater right valve crack, Leakage Problem |
| | | NSPCL | BHILAI TPS | 2 | 12-Jul-09 | 1-Nov-09 | 250 | 90.07 | |
| | | NTPC Ltd. | DADRI (NCTPP) | 5 | 29-Jan-10 | 1-Feb-10 | 490 | 89.32 | |
| | | | KAHALGAON TPS | 7 | 31-Jul-09 | 1-Apr-10 | 500 | 58.75 | Coal shortages & PG test (15.06.11 to 30.06.11) |

| Fin. Year | Sector | Utility | Station name | Unit No. | Date of commissioning | Date of stabilization | capacity (MW) | PLF % during 2011-12 | Resons for low PLF% |
|---|---|---|---|---|---|---|---|---|---|
| | | **CENTRAL Total** | | | | | 1740 | 73.08 | |
| | **PVT** | APL | MUNDRA TPS | 1 | 4-Aug-09 | 1-Sep-09 | 330 | 65.35 | Hydrogen Leakage from generator |
| | | | MUNDRA TPS | 2 | 17-Mar-10 | 1-Apr-10 | 330 | 73.36 | |
| | | CESC | BUDGE BUDGE TPS | 3 | 29-Sep-09 | 1-Mar-10 | 250 | 98.09 | |
| | | JSWEL | TORANGALLU TPS(SBU | 3 | 23-Apr-09 | 1-Jul-09 | 300 | 79.76 | |
| | | | TORANGALLU TPS(SBU | 4 | 24-Aug-09 | 1-Sep-09 | 300 | 79.84 | |
| | | LANCO | PATHADI TPP | 1 | 4-Jun-09 | 1-Apr-10 | 300 | 83.07 | |
| | | | PATHADI TPP | 2 | 25-Mar-10 | 1-Aug-10 | 300 | 68.79 | GT Protection Relay operated |
| | | RPSCL | ROSA TPP Ph-I | 1 | 10-Feb-10 | 1-Apr-10 | 300 | 82.29 | |
| | | RWPL (JSW) | JALIPA KAPURDI TPP | 1 | 16-Oct-09 | 1-Dec-09 | 135 | 40.96 | Misc. problems |
| | | **PVT Total** | | | | | 2545 | 74.61 | |
| | **STATE** | APGENCO | Dr. N.TATA RAO TPS | 7 | 8-Oct-09 | 1-Feb-10 | 500 | 93.82 | |
| | | GSECL | KUTCH LIG. TPS | 4 | 1-Oct-09 | 1-Jan-10 | 75 | 54.45 | Various Forced Outages |
| | | HPGCL | RAJIV GANDHI TPS | 1 | 31-Mar-10 | 1-Feb-12 | 600 | 80.40 | Boiler Misc. Problem, Various Tubes Lekages |
| | | MAHAGENCO | PARAS TPS | 4 | 27-Mar-10 | 1-Sep-10 | 250 | 66.84 | Poor/wet coal,coal shortage,coal handling problem |
| | | | PARLI TPS | 7 | 10-Feb-10 | 1-Aug-10 | 250 | 54.97 | Coal mill outage,wet coal |
| | | RRVUNL | CHHABRA TPP | 1 | 30-Oct-09 | 1-Jul-10 | 250 | 76.56 | |
| | | | GIRAL TPS | 2 | 6-Nov-09 | 1-Apr-11 | 125 | 26.60 | Leakage in seal pot |
| | | | KOTA TPS | 7 | 31-Aug-09 | 1-Jan-10 | 195 | 96.88 | |
| | | | SURATGARH TPS | 6 | 29-Aug-09 | 1-Oct-10 | 250 | 49.28 | LP turbine blade failure |
| | | WBPDC | BAKRESWAR TPS | 5 | 7-Jun-09 | 1-Jul-09 | 210 | 83.73 | |
| | | **STATE Total** | | | | | 2705 | 68.35 | |
| | **2009-10 Total** | | | | | | **6990** | **71.68** | |
| | | | | | | | | | |
| **2010-11** | **CENTRAL** | APCPL | INDIRA GANDHI STPP | 1 | 31-Oct-10 | 1-Apr-11 | 500 | 55.14 | Reserve shurdown/furnace draft problem |
| | | DVC | MEJIA TPS | 7 | 30-Sep-10 | 1-Sep-11 | 500 | 46.00 | GT demage,coal shortage |
| | | DVC | MEJIA TPS | 8 | 26-Mar-11 | $ | 500 | 0.00 | Leakage problems |
| | | NLC | BARSINGSAR LIGNITE | 1 | 28-Jun-10 | 1-Feb-12 | 125 | 84.46 | |
| | | | BARSINGSAR LIGNITE | 2 | 25-Jan-11 | 1-Jan-12 | 125 | 63.67 | Boiler misc. problems |
| | | NTPC Ltd. | DADRI (NCTPP) | 6 | 30-Jul-10 | 1-Aug-10 | 490 | 92.53 | |
| | | | FARAKKA STPS | 6 | 23-Mar-11 | $ | 500 | 0.00 | New unit |
| | | | KORBA STPS | 7 | 26-Dec-10 | 1-Apr-11 | 500 | 76.21 | Generator Misc. Problem |
| | | | SIMHADRI | 3 | 31-Mar-11 | 1-Oct-11 | 500 | 92.15 | |
| | | **CENTRAL Total** | | | | | 3740 | 56.68 | |
| | **PVT** | APL | MUNDRA TPS | 3 | 2-Aug-10 | 1-Sep-10 | 330 | 79.00 | |
| | | | MUNDRA TPS | 4 | 20-Dec-10 | 1-Feb-11 | 330 | 83.02 | |
| | | | MUNDRA TPS | 5 | 26-Dec-10 | 1-Jun-11 | 660 | 52.37 | Transmission constraint/Grid distrubance |
| | | GIPCL | SURAT LIG. TPS | 3 | 12-Apr-10 | 1-Jan-11 | 125 | 71.22 | Boiler tube leakage |
| | | | SURAT LIG. TPS | 4 | 23-Apr-10 | 1-May-11 | 125 | 57.99 | BTL |
| | | JSWEL | JSW RATNAGIRI TPP | 1 | 24-Aug-10 | 1-Jan-11 | 300 | 76.69 | |
| | | JSWEL | JSW RATNAGIRI TPP | 2 | 9-Dec-10 | 1-Mar-11 | 300 | 75.90 | |
| | | RPSCL | ROSA TPP Ph-I | 2 | 26-Jun-10 | 1-Jul-10 | 300 | 78.68 | |
| | | RWPL (JSW) | JALIPA KAPURDI TPP | 2 | 8-Jul-10 | 1-Nov-10 | 135 | 44.16 | Misc. problems |
| | | SEL | STERLITE TPP | 1 | 29-Dec-10 | 1-Aug-11 | 600 | 59.98 | Air pre heater/boiler misc. problem |
| | | | STERLITE TPP | 2 | 14-Oct-10 | 1-Dec-10 | 600 | 39.15 | Boiler misc problems |

| Fin. Year | Sector | Utility | Station name | Unit No. | Date of commissioning | Date of stabilization | capacity (MW) | PLF % during 2011-12 | Resons for low PLF% |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| | | UPCL | UDUPI TPP | 1 | 23-Jul-10 | 1-Dec-10 | 600 | 59.78 | Transmssion constraints |
| | | WPCL | WARDHA WARORA TPP | 1 | 5-Jun-10 | 1-Aug-10 | 135 | 71.00 | Low system demand |
| | | | WARDHA WARORA TPP | 2 | 10-Oct-10 | 1-Feb-11 | 135 | 67.96 | Low system demand |
| | | | WARDHA WARORA TPP | 3 | 21-Jan-11 | 1-Jun-11 | 135 | 70.56 | Low system demand |
| | | **PVT Total** | | | | | 4810 | 65.83 | |
| | **STATE** | APGENCO | KAKATIYA TPS | 1 | 27-May-10 | 1-Feb-11 | 500 | 55.64 | Turbine problem |
| | | | RAYALASEEMA TPS | 5 | 31-Dec-10 | 1-Jun-11 | 210 | 82.70 | |
| | | HPGCL | RAJIV GANDHI TPS | 2 | 1-Oct-10 | 1-Dec-11 | 600 | 57.24 | New unit |
| | | KPCL | RAICHUR TPS | 8 | 26-Jun-10 | 1-Feb-11 | 250 | 43.04 | poor coal quality,shortage of coal due to Telangana agitation |
| | | RRVUNL | CHHABRA TPP | 2 | 4-May-10 | $ | 250 | 0.00 | Pending work boiler turbine fuel box up,fuel mill coal ESP etc.,coal shortage ,BTL |
| | | **STATE Total** | | | | | 1810 | 47.72 | |
| | **2010-11 Total** | | | | | | **10360** | **59.87** | |
| | | | | | | | | | |
| **2011-12** | **CENTRAL** | APCPL | INDIRA GANDHI STPP | 2 | 5-Nov-11 | $ | 500 | $$ | Non Stablized Unit |
| | | DVC | DURGAPUR STEEL TPS | 1 | 29-Jul-11 | $ | 500 | $$ | Non Stablized Unit |
| | | | KODARMA TPP | 1 | 20-Jul-11 | $ | 500 | $$ | Non Stablized Unit |
| | | NLC | NEYVELI TPS-II EXP | 1 | 4-Feb-12 | $ | 250 | $$ | Non Stablized Unit |
| | | NTECL | VALLUR TPP | 1 | 28-Mar-12 | $ | 500 | $$ | Non Stablized Unit |
| | | NTPC Ltd. | SIMHADRI | 4 | 30-Mar-12 | $ | 500 | $$ | Non Stablized Unit |
| | | | SIPAT STPS | 1 | 28-Jun-11 | 1-Dec-11 | 660 | 71.52 | New Unit |
| | | | SIPAT STPS | 2 | 24-Dec-11 | $ | 660 | 0.00 | |
| | | **CENTRAL Total** | | | | | 4070 | 8.94 | |
| | **PVT** | ACB | KASAIPALLI TPP | 1 | 13-Dec-11 | $ | 135 | $$ | Non Stablized Unit |
| | | AMNEPL | MIHAN TPS | 1 | 9-Feb-12 | $ | 61.5 | $$ | Non Stablized Unit |
| | | | MIHAN TPS | 2 | 9-Feb-12 | $ | 61.5 | $$ | Non Stablized Unit |
| | | | MIHAN TPS | 3 | 9-Feb-12 | $ | 61.5 | $$ | Non Stablized Unit |
| | | | MIHAN TPS | 4 | 9-Feb-12 | $ | 61.5 | $$ | Non Stablized Unit |
| | | APL | MUNDRA TPS | 6 | 20-Jul-11 | 1-Aug-11 | 660 | 8.57 | Grid Restriction,Turbine Misc. Problem |
| | | | MUNDRA TPS | 7 | 7-Nov-11 | 1-Dec-11 | 660 | 68.14 | Grid Restriction,CTL,Turbine Misc. Problem |
| | | | MUNDRA TPS | 8 | 3-Mar-12 | $ | 660 | $$ | Non Stablized Unit |
| | | | MUNDRA TPS | 9 | 9-Mar-12 | $ | 660 | $$ | Non Stablized Unit |
| | | BEPL | BARKHERA TPS | 1 | 6-Nov-11 | $ | 45 | $$ | Non Stablized Unit |
| | | | BARKHERA TPS | 2 | 28-Jan-12 | $ | 45 | $$ | Non Stablized Unit |
| | | | KHAMBARKHERA TPS | 1 | 17-Oct-11 | $ | 45 | $$ | Non Stablized Unit |
| | | | KHAMBARKHERA TPS | 2 | 28-Nov-11 | 1-Jan-12 | 45 | 70.26 | New Unit |
| | | | KUNDARKI TPS | 1 | 10-Jan-12 | $ | 45 | $$ | Non Stablized Unit |
| | | | KUNDARKI TPS | 2 | 29-Feb-12 | $ | 45 | $$ | Non Stablized Unit |
| | | | MAQSOODPUR TPS | 1 | 3-Nov-11 | $ | 45 | $$ | Non Stablized Unit |
| | | | MAQSOODPUR TPS | 2 | 21-Jan-12 | $ | 45 | $$ | Non Stablized Unit |
| | | | UTRAULA TPS | 1 | 21-Mar-12 | $ | 45 | $$ | Non Stablized Unit |
| | | | UTRAULA TPS | 2 | 19-Mar-12 | $ | 45 | $$ | Non Stablized Unit |
| | | CGPL | MUNDRA UMTPP | 1 | 25-Feb-12 | $ | 800 | $$ | Non Stablized Unit |
| | | EPGL | SALAYA TPP | 1 | 22-Feb-12 | $ | 600 | $$ | Non Stablized Unit |
| | | JhPL(HR) | MAHATMA GANDHI TPS | 1 | 12-Jan-12 | 1-Apr-12 | 660 | 0.00 | New Unit |
| | | JSWEL | JSW RATNAGIRI TPP | 3 | 6-May-11 | 1-Aug-11 | 300 | 72.38 | poor coal quality |
| | | | JSW RATNAGIRI TPP | 4 | 8-Oct-11 | 1-Nov-11 | 300 | 80.49 | |
| | | LAPPL | ANPARA C TPS | 1 | 15-Nov-11 | $ | 600 | $$ | Non Stablized Unit |
| | | | ANPARA C TPS | 2 | 12-Nov-11 | $ | 600 | $$ | Non Stablized Unit |
| | | MPL | MAITHON RB TPP | 1 | 30-Jun-11 | 1-Sep-11 | 525 | 46.33 | New unit ,Generator Transformar Failures |

| Fin. Year | Sector | Utility | Station name | Unit No. | Date of commissioning | Date of stabilization | capacity (MW) | PLF % during 2011-12 | Resons for low PLF% |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| | | RPSCL | ROSA TPP Ph-I | 3 | 28-Dec-11 | 1-Feb-12 | 300 | 12.99 | New Unit |
| | | | ROSA TPP Ph-I | 4 | 28-Mar-12 | $ | 300 | $$ | Non Stablized Unit |
| | | RWPL (JSW) | JALIPA KAPURDI TPP | 3 | 2-Nov-11 | 1-Dec-11 | 135 | 75.69 | |
| | | | JALIPA KAPURDI TPP | 4 | 23-Nov-11 | 1-Jan-12 | 135 | 65.32 | New Unit |
| | | SEL | STERLITE TPP | 3 | 16-Aug-11 | 1-Sep-11 | 600 | 34.40 | New Unit |
| | | SEPL | SIMHAPURI TPS | 1 | 24-Mar-12 | $ | 150 | $$ | Non Stablized Unit |
| | | SVPPL | SVPL TPP | 1 | 7-Dec-11 | $ | 63 | $$ | Non Stablized Unit |
| | | UPCL | UDUPI TPP | 2 | 16-Apr-11 | $ | 600 | $$ | Non Stablized Unit |
| | | VESPL | KATGHORA TPP | 1 | 14-Feb-12 | 1-Mar-12 | 35 | 0.00 | New Unit |
| | | WPCL | WARDHA WARORA TPI | 4 | 30-Apr-11 | $ | 135 | 0.00 | |
| | | **PVT Total** | | | | | 10309 | 14.45 | |
| | **STATE** | APGENCO | KOTHAGUDEM TPS (NE | 3 | 26-Jun-11 | 1-Nov-11 | 500 | 90.45 | New Unit |
| | | MAHAGENCO | BHUSAWAL TPS | 4 | 7-Mar-12 | $ | 500 | $$ | Non Stablized Unit |
| | | | BHUSAWAL TPS | 5 | 30-Mar-12 | $ | 500 | $$ | Non Stablized Unit |
| | | | KHAPARKHEDA TPS | 5 | 5-Aug-11 | $ | 500 | $$ | Non Stablized Unit |
| | | UPRVUNL | HARDUAGANJ TPS | 8 | 27-Sep-11 | 1-Mar-12 | 250 | 20.99 | New Unit |
| | | WBPDC | SANTALDIH TPS | 6 | 29-Jun-11 | 1-Oct-11 | 250 | 67.10 | flame failure |
| | | **STATE Total** | | | | | 2500 | 29.76 | |
| | **2011-12 Total** | | | | | | **16879** | **15.38** | |

$ Units yet to be stabilized
$ Non stabilized units
$$ PLF not calculated

**Annex – VII**

## List of Coal based Thermal Power Stations which achieved PLF above 90% during the year 2011-12

| S.No. | Station | Capacity (MW) | PLF (>90%) |
|---|---|---|---|
| 1 | DAHANU TPS | 500 | 101.34 |
| 2 | OP JINDAL TPS | 1000 | 97.75 |
| 3 | TORANGALLU TPS(SBU-I) | 260 | 96.06 |
| 4 | GH TPS (LEH.MOH.) | 920 | 94.31 |
| 5 | SIPAT STPS | 2320 | 93.93 |
| 6 | RAMAGUNDEM STPS | 2600 | 93.09 |
| 7 | SIMHADRI | 2000 | 92.78 |
| 8 | METTUR TPS | 840 | 92.77 |
| 9 | KOTA TPS | 1240 | 92.45 |
| 10 | RIHAND STPS | 2000 | 92.09 |
| 11 | Dr. N.TATA RAO TPS | 1760 | 91.57 |
| 12 | BHILAI TPS | 500 | 90.57 |
| 13 | TALCHER (OLD) TPS | 470 | 90.53 |
| 14 | VINDHYACHAL STPS | 3260 | 90.40 |
| 15 | BUDGE BUDGE TPS | 750 | 90.16 |
| **Total** | | **20420.00** | |