

## Hydro Power Development in Andhra Pradesh

### Identified Hydro Power Potential and its status of Development :

|                                                                                                                                   |                                    | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> |                                    | 10   | 2341          |
| <b>I</b>                                                                                                                          | <b>Capacity in operation</b>       | 7    | 1610          |
| <b>II</b>                                                                                                                         | <b>Capacity under construction</b> | 1    | 960           |

### 1. Identified Projects during Reassessment study

| Sl.No.       | Name of Project    | River       | I. C. (MW) |
|--------------|--------------------|-------------|------------|
| 1            | Machkund           | Machkund    | 205        |
| 2            | Balimela           | Sileru      | 65         |
| 3            | Upper Sileru       | Sileru      | 150        |
| 4            | Lower Sileru       | Sileru      | 385        |
| 5            | Donkarai Canal     | Sileru      | 44         |
| 6            | Polavaram          | Godavari    | 545        |
| 7            | Pondugala          | Krishna     | 95         |
| 8            | Nagarjunasagar RBC | Krishna     | 45         |
| 9            | Srisaillam         | Krishna     | 775        |
| 10           | Tungbhadra HLC     | Bhadra      | 32         |
| <b>TOTAL</b> |                    | <b>2341</b> |            |

## 2 . H.E. Projects in Operation :

| Sl.No. | Name of Project     | Agency  | I. C.<br>(MW) | Year of Commissioning |
|--------|---------------------|---------|---------------|-----------------------|
| 1      | Upper Sileru I      | APGENCO | 120           | 1967-68               |
| 2      | Upper Sileru St.II  | APGENCO | 120           | 1994-95               |
| 3      | Srisaillam          | APGENCO | 770           | 1982-87               |
| 4      | Lower Sileru        | APGENCO | 460           | 1976-78               |
| 5      | N.J. Sagar RBC      | APGENCO | 60            | 1983-90               |
| 6      | N.J. Sagar RBC Ext. | APGENCO | 30            |                       |
| 7      | N.J. Sagar TPD      | APGENCO | 50            | 2017                  |
|        | <b>Total</b>        |         | <b>1610</b>   |                       |

## 3. Hydel Generation Performance for three years:

| Year    | Target (MU) | Actual Generation<br>(MU) | % of Actual Generation<br>Vs Target |
|---------|-------------|---------------------------|-------------------------------------|
| 2014-15 | 3442        | 3854.04                   | 111.97                              |
| 2015-16 | 3773        | 2511.31                   | 66.56                               |
| 2016-17 | 3604        | 2605.99                   | 72.31                               |

## 4. H.E. Schemes under Construction:

| Sl. No. | Name of Project            | Agency                            | I. C.<br>(MW) | Likely Commissioning | Issues / Constraints                                                                                                                                                                    |
|---------|----------------------------|-----------------------------------|---------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Indirasagar<br>(Polavaram) | Polavaram<br>Project<br>Authority | 960           | 2021-22              | Slow pace of works due to fund constraints. Further, Public hearing for construction of protective embankment to be held in Oddisha and Chhattisgarh as desired by MOEF at later stage. |
|         | <b>Total</b>               |                                   | <b>960</b>    |                      |                                                                                                                                                                                         |

## 5. H.E. schemes held up due to Inter-State aspects:

| Sl. No. | Name of Scheme/<br>I.C.           | Total<br>I.C.<br>( MW) | Location<br>(State) | States<br>Involved                        | Status                                                                                                                                                                                                                                   |
|---------|-----------------------------------|------------------------|---------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | Inchampalli MPP<br>(13x75= 975MW) | 975                    | A.P.                | A.P./M.P./<br>Chhatisgarh/<br>Maharashtra | <ul style="list-style-type: none"><li>• DPR with estimated cost of Rs.1110 crores (1987-88 PL) returned in 05/1989.</li><li>• Requires Resolution of inter-state aspects and submergence with MP, Chhatisgarh and Maharashtra.</li></ul> |

## Hydro Power Development in Arunachal Pradesh

### Identified Hydro Power Potential and its status of Development:

|                                                                                                                                   |                                                                                       | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> |                                                                                       | 87   | 50064         |
| <b>I</b>                                                                                                                          | <b>Capacity in operation</b>                                                          | 1    | 405           |
| <b>II</b>                                                                                                                         | <b>Capacity under construction</b>                                                    | 4    | 2854          |
| <b>III</b>                                                                                                                        | <b>Schemes allotted by States for development</b>                                     |      |               |
|                                                                                                                                   | (i) Schemes cleared by CEA and yet to be taken up for construction                    | 18   | 17972         |
|                                                                                                                                   | (ii) Schemes under Examination in CEA                                                 | 3    | 2576          |
|                                                                                                                                   | (iii) Schemes returned to project authorities                                         | 11   | 4433          |
|                                                                                                                                   | (iv) Schemes under S&I                                                                | 28   | 4058          |
|                                                                                                                                   | (v) H.E. Schemes allotted for development on which S&I is held up/ yet to be taken up | 19   | 9132          |
|                                                                                                                                   | <b>Total (i-v)</b>                                                                    | 79   | 38171         |

#### 1. H.E. Projects in Operation :

| Sl.No. | Name of Project   | I.C. (MW)  | Year of Commissioning |
|--------|-------------------|------------|-----------------------|
| 1      | Ranganadi(NEEPCO) | 405        | 2002                  |
|        | <b>Total</b>      | <b>405</b> |                       |

#### 2. H.E. Schemes Under Construction:

| Sl. No. | Name of Project | Agency | I. C. (MW) | Likely Commissioning |
|---------|-----------------|--------|------------|----------------------|
| 1       | Subansiri Lower | NHPC   | 2000       | 2020-21*             |
| 2       | Pare            | NEEPCO | 110        | 2017-18              |
| 3       | Kameng          | NEEPCO | 600        | 2017-19              |

|   |              |                        |             |          |
|---|--------------|------------------------|-------------|----------|
| 4 | Gongri       | Diran Energy Pvt. Ltd. | 144         | 2020-21* |
|   | <b>Total</b> |                        | <b>2854</b> |          |

\* subject to re-start of works.

### 3. H.E. Projects Cleared/Appraised by CEA:

| SI No. | Name of Project | Agency  | I.C. (MW) | Date of CEA Concurrence | Status                                                                                                                                                                               |
|--------|-----------------|---------|-----------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | Dibbin          | KSKDHPL | 120       | 04.12.09                | EC accorded on 23.7.2012. FC-I accorded on 7.2.2012 & FC-II awaited.                                                                                                                 |
| 2      | Lower Siang     | JAVL    | 2700      | 16.02.10                | EC & FC awaited.                                                                                                                                                                     |
| 3      | Nafra           | SNEL    | 120       | 11.02.11                | EC accorded on 19.08.13. FC-I accorded on 12.7.11 and FC-II accorded in 26.06.12. Financial closure cancelled. Project held up for want of final orders on diversion of forest land. |
| 4      | Nyamjang Chhu   | BEL     | 780       | 24.03.11                | EC accorded on 19.4.12. FC-I accorded on 9.4.2012 & FC-II awaited.                                                                                                                   |
| 5      | Tawang St-I     | NHPC    | 600       | 10.10.11                | EC accorded on 10.6.11. FC proposal forwarded by State Govt. to MOEF on 21.08.11. FC-I & II awaited..                                                                                |
| 6      | Tato-II         | THPPL   | 700       | 22.5.12                 | EC accorded on 27.6.11. FC is linked to Cumulative Impact Assessment Study of Siang Basin which has been carried out and accepted by MoEF.                                           |
| 7      | Tawang St-II    | NHPC    | 800       | 22.09.11                | EC accorded on 10.06.11. FC-I accorded on 8.01.14. FC-II awaited                                                                                                                     |
| 8      | Demwe Lower     | ADPL    | 1750      | 20.11.09                | EC accorded on 12.02.10. FC accorded on 26.07.13. Financial closure yet to be obtained. Petition filed in NGT against the project.                                                   |

|    |               |           |              |            |                                                                                                                                                                    |
|----|---------------|-----------|--------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9  | Hirong        | JAPL      | 500          | 10.04.2013 | EC & FC awaited.                                                                                                                                                   |
| 10 | Talonga Londa | GMR       | 225          | 16.08.2013 | EC cleared on 07.08.2015 & FC awaited.                                                                                                                             |
| 11 | Etalin        | EHEPCL    | 3097         | 12.07.2013 | EC & FC awaited.                                                                                                                                                   |
| 12 | Naying HEP    | NDSCPL    | 1000         | 11.09.2013 | EC & FC awaited                                                                                                                                                    |
| 13 | Siyom         | SHPPL     | 1000         | 17.12.2013 | EC accorded 31.01.08. FC awaited. Forest clearance is linked to Cumulative Impact Assessment Study of Siang Basin which has been carried out and accepted by MoEF. |
| 14 | Kalai –II HEP | Kalai PPL | 1200         | 27.3.2015  | EC accorded 20.5.15. FC awaited                                                                                                                                    |
| 15 | Heo           | HPPL      | 240          | 28.07.2015 | EC accorded on 31.03.15. Letter is yet to be issued. FC-I accorded 27.10.15. FC-II awaited                                                                         |
| 16 | Tato-I        | SHPPL     | 186          | 28.10.2015 | EC accorded on 10.11.15. FC-I accorded 27.10.15. FC-II awaited                                                                                                     |
| 17 | Tagurshit     | L&T       | 74           | 21.10.16   | EC & FC awaited.                                                                                                                                                   |
| 18 | Dibang        | NHPC      | 2880         | 02.05.2017 | EC accorded on 19.05.15. FC-I accorded 15.04.15. FC-II awaited.                                                                                                    |
|    | <b>Total</b>  |           | <b>17972</b> |            |                                                                                                                                                                    |

#### 4. Hydro Schemes Under Examination/Scrutiny in CEA :

| Sl. No. | Name of Project          | Agency | I.C. (MW)   | Month of receipt |
|---------|--------------------------|--------|-------------|------------------|
| 1       | Subansiri Middle (Kamla) | KHEPCL | 1800        | Oct-13           |
| 2       | Attunli                  | AHEPCL | 680         | Oct-14           |
| 3       | Magochu                  | SMCPCL | 96          | March'16         |
|         | <b>Total</b>             |        | <b>2576</b> |                  |

## 5. Hydro Schemes Returned to Project Authorities for re-submission after compliance of observations :

| Sl. No. | Name of Scheme  | Agency  | I.C. (MW) | Reason of Return                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------|-----------------|---------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Ranganadi St-II | NEEPCO  | 130       | NEEPCO has been asked to review the scheme and resubmit DPR after cost and tariff are brought down. MOU with State Govt. yet to be signed.                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2       | Yamne St-II     | SSYEVPL | 84        | DPR returned due to inadequate geological investigations at dam site, diversion tunnel, surge shaft & power house etc.                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3       | Hutong –II      | MEIPL   | 1200      | Presentation was held on 23.03.2012 and DPR taken under examination. The DPR was returned on 24.5.12 as the scheme is now to be developed as storage scheme. Hydrology & PPS cleared on 9.5.2011 & 27.3.2012.                                                                                                                                                                                                                                                                                                                               |
| 4       | Kalai-I         | MFIPL   | 1352      | STC decided that M/S MFIPL should carry out the detailed investigation for the revised DPR as per CEA's letter dt 24.5.2012.                                                                                                                                                                                                                                                                                                                                                                                                                |
| 5       | Pemashelphu HEP |         | 90        | Due to non replying of the comments and likely change in location of Dams benefits from the project, DPR of project has been returned.                                                                                                                                                                                                                                                                                                                                                                                                      |
| 6       | Sissiri HEP     |         | 100       | PPS & Hydrology cleared. Project was under consideration of STC due to conversion of storage Scheme to ROR Scheme. STC Cleared the Scheme as ROR scheme vide letter dated-14.12.2012. presentation meeting held on 21.02.2013. DPR could not be accepted to detailed examination as representation of State Govt. pointed out that irrigation and drinking water component should be internal part of two project and cost of same should be included in cost of project. DPR returned to developer for sort out the issue with State Govt. |
| 7       | Gimiliang       |         | 80        | DPR returned during presentation meeting held on 03.5.2013 due to inadequate geological investigation. Developer was told to submit revised DPR after carrying out necessary investigation and IC got fixed by CEA.                                                                                                                                                                                                                                                                                                                         |
| 8       | Raigam          |         | 141       | DPR returned during presentation meeting held on 03.5.2013 due to inadequate geological investigation. Developer was told to submit revised DPR after carrying out necessary investigation and IC got fixed by CEA.                                                                                                                                                                                                                                                                                                                         |
| 9       | Kangtangshiri   | KHPPL   | 80        | Returned on 29.07.2013 due to inadequate investigation and in proper layout etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

|    |                 |        |             |                                                                                                                                                                                                                                                                                                               |
|----|-----------------|--------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10 | Demwe Upper     | LUPL   | 1080        | Developer informed that due to lack of confidence in constructability of Dam considering its deep foundation, they are not in a position to finalize the type of dam and are still in consultation with the contractors in this regard. Hence the project was returned vide secretary CEA ltr. Dtd.26/03/2015 |
| 11 | Nyukcharong Chu | SNCPCL | 96          | Returned due to non submission of investigation suggested by GSI.                                                                                                                                                                                                                                             |
|    | <b>Total</b>    |        | <b>4433</b> |                                                                                                                                                                                                                                                                                                               |

## 6. Hydro Schemes Under Survey & Investigation :

| Sl. No. | Name of Scheme | Basin/River | Agency for DPR             | Original I.C. (MW) | Date of MOA                                                                         | Target date of Preparation of DPR |
|---------|----------------|-------------|----------------------------|--------------------|-------------------------------------------------------------------------------------|-----------------------------------|
| 1       | Oju            | Subansiri   | Navayuga Engg. Co. Ltd.    | 1800               | June'2010 for Oju-I & Oju-II, Revised MoU for Single Scheme is received in April'13 | 3/18                              |
| 2       | Pauk           | Siang       | Velcan Energy Pvt Ltd      | 145                | 30.06.2007 (rev MOA-31.07.09)                                                       | 03/18                             |
| 3       | Chomi          | Subansiri   | Adveta Power               | 80                 | 14.2.2013                                                                           | 12/19                             |
| 4       | Chela          | Subansiri   | Adveta Power               | 75                 | 14.2.2013                                                                           | 12/19                             |
| 5       | Badao          | Kameng      | Coastal Projects Pvt. Ltd. | 70                 | 19.11.2008                                                                          | 12/17                             |
| 6       | Para           | Kameng      | Coastal Projects Pvt. Ltd. | 55                 | 19.11.2008                                                                          | 12/17                             |
| 7       | Pachuk-II      | Kameng      | Energy development Co. Ltd | 60                 | 27.08.2010                                                                          | 12/17                             |

|    |                   |        |                            |    |                                     |       |
|----|-------------------|--------|----------------------------|----|-------------------------------------|-------|
| 8  | Tsa Chu - I Lower | Tawang | Energy development Co. Ltd | 50 | 27.08.2010                          | 12/17 |
| 9  | Tsa Chu - II      | Tawang | Energy development Co. Ltd | 90 | 27.08.2010                          | 12/17 |
| 10 | Pachuk-II Lower   | Kameng | Energy development Co. Ltd | 45 | 27.8.2010                           | 12/17 |
| 11 | Marijingla        | Kameng | Energy development Co. Ltd | 60 | 12.1.2008<br>(Amended on 27.8.2010) | 12/17 |
| 12 | Marijingla Lower  | Kameng | Energy development Co. Ltd | 48 | 27.8.2010                           | 12/17 |
| 13 | Rego              | Siang  | Greenko Energies Ltd.      | 70 | 25.09.2012                          | 06/18 |
| 14 | Rapum             | Siang  | Greenko Energies Ltd.      | 80 | 27.12.2007                          | 06/18 |
| 15 | Jameri            | Kameng | KSK Energy Ventures Ltd    | 50 | 27.12.2007                          | 07/17 |
| 16 | Pango             | Siang  | Meenakshi Power Ltd.       | 96 | 27.08.2010                          | 12/18 |
| 17 | Sippi             | Siang  | Meenakshi Power Ltd.       | 96 | 20.7.2011                           | 06/18 |
| 18 | Jidu (Yangsang)   | Siang  | Meenakshi Power Ltd.       | 92 | 20.7.2011                           | 03/18 |
| 19 | Digin             | Kameng | Patel Hydro Power Pvt.Ltd. | 46 | 15.11.2010                          | 09/17 |
| 20 | Meyong            | Kameng | Patel Hydro Power Pvt.Ltd. | 38 | 15.11.2010                          | 09/17 |

|    |                |                      |                                   |             |            |       |
|----|----------------|----------------------|-----------------------------------|-------------|------------|-------|
| 21 | Panyor         | Dikrong              | Rajratna Energy Holding Pvt. Ltd. | 80          | 25.02.2009 | 09/18 |
| 22 | Doimukh        | Dikrong              | SJVN Ltd.                         | 80          | 28.08.2014 | -     |
| 23 | Tidding-I      | Lohit                | Sai Krishnodaya Ind. (P) Ltd.     | 68          | 26.02.2009 | 06/18 |
| 24 | Tidding-II     | Lohit                | Sai Krishnodaya Ind. (P) Ltd.     | 96          | 26.02.2009 | 06/18 |
| 25 | New Melling    | Tawang               | SEW Energy                        | 96          | 2.3.2009   |       |
| 26 | Lower Yamne-II | Siang                | Yamne Power Pvt. Ltd.             | 87          | 29.11.2008 | 12/17 |
| 27 | Lower Yamne -I | Siang                | Yamne Power Pvt. Ltd              | 75          | 29.11.2009 | 12/17 |
| 28 | Kurung         | Subansiri/<br>Kurung | NEEPCO                            | 330         | 27.1.2015  | 11/18 |
|    | <b>Total</b>   |                      |                                   | <b>4058</b> |            |       |

**7. H.E. schemes allotted for development on which Survey & Investigation is held up/ yet to be taken up:**

| Sl. No. | Name of Scheme         | I.C. (MW) | Agency                   | Date of Allotment/ MoA | Status                                                          |
|---------|------------------------|-----------|--------------------------|------------------------|-----------------------------------------------------------------|
| 1       | Bhareli-II (Kameng-II) | 600       | Mountain Falls Ltd.      | 23.11.2006             | S&I held up due to project lie in Pakke Wild life Sanctuary.    |
| 2       | Papu                   | 90        | CESC Ltd.                | 16.05.2012             | S&I held up. Project lies in Pakke wild life sanctuary.         |
| 3       | Kameng Dam             | 600       | KSK Energy Ventures Ltd. | 25.01.2007             | S&I held up. The project may be dropped due to vicinity of wild |

|    |          |      |                                  |            |                                                                                                                                                     |
|----|----------|------|----------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
|    |          |      |                                  |            | life sanctuary.                                                                                                                                     |
| 4  | Emra-I   | 275  | Athena Energy Ventures Pvt. Ltd. | 02.02.2008 | S&I not taken up due to inaccessibility of the site.                                                                                                |
| 5  | Amulin   | 420  | Reliance Power Ltd.              | 03.02.2009 | S&I held up and slow progress due to road/infrastructure issues.                                                                                    |
| 6  | Emini    | 500  | Reliance Power Ltd.              | 03.02.2009 | S&I held up and slow progress due to road/infrastructure issues.                                                                                    |
| 7  | Mihumdon | 400  | Reliance Power Ltd.              | 03.02.2009 | S&I held up and slow progress due to road/infrastructure issues.                                                                                    |
| 8  | Nalo     | 635  | Indus Hydro Power                | 16.11.2010 | First consultation meeting held on 27.11.2013. S&I will be taken up after transfer of project in the name of Asian Genco Pvt. Ltd.                  |
| 9  | Rho      | 93   | SEW Energy                       | 2.3.2009   | First consultation meeting held on 30.10.2013. S&I held up due to the inability shown by the Developer to carry out investigations suggested by GSI |
| 10 | Dardu    | 60   | KVK Energy & Infrastructure Ltd. | 26.12.2007 | S&I held up due to non-resolution of Highway issue.                                                                                                 |
| 11 | Naba     | 1000 | Abir Infrastructure Pvt. Ltd.    | 21.06.2010 | S&I held up due to unapproachable area/difficult & inhospitable terrain & local law & order problem.                                                |
| 12 | Dengser  | 552  | Coastal Infrastructre Pvt. Ltd.  | 26.04.2011 | S&I held up due to unapproachable area/difficult & inhospitable terrain & local law & order problem.                                                |
| 13 | Niare    | 800  | Coastal Infrastructre Pvt. Ltd.  | 26.04.2011 | S&I held up due to unapproachable area/difficult & inhospitable terrain & local law & order problem.                                                |

|    |                 |             |                             |            |                                                                                                                       |
|----|-----------------|-------------|-----------------------------|------------|-----------------------------------------------------------------------------------------------------------------------|
| 14 | Anjaw           | 270         | Athena Energy Ventures Ltd. | 09.07.2007 | First consultation meeting held on 30.07.2014. S&I held up .                                                          |
| 15 | Emra-II         | 390         | Athena Energy Ventures Ltd. | 02.02.2009 | S&I held up. No road connectivity to project site. Local issues, communication problem                                |
| 16 | Yamne-I         | 111         | S.S. Yamne Power Pvt Ltd    | 05.03.2009 | First consultation meeting held on 30.07.2014. S&I held up. Local Problems in Siang Valley. Problems of law and order |
| 17 | Dinchang        | 252         | KSK Energy Ventures Ltd     | 11.9.2007  | S&I works to be taken up after finalization of JV with NEEPCO                                                         |
| 18 | Ithun-I         | 84          | JVKIL Consortium            | 29.8.2008  | Non-operationalization of Hunli-Desali road                                                                           |
| 19 | Subansiri Upper | 2000        | KSK Energy Ventures Ltd.    | 18.03.2010 | S&I held up due to lack of clarity on funding of flood moderation cost.                                               |
|    | <b>Total</b>    | <b>9132</b> |                             |            |                                                                                                                       |

## Hydro Power Development in Assam

### Identified Hydro Power Potential and its status of Development:

|                                                                                                                            |                                                                    | Nos. | Capacity (MW) |
|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|------|---------------|
| Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW) |                                                                    | 9    | 650           |
| <b>I</b>                                                                                                                   | Capacity in operation                                              | 3    | 375           |
| <b>II</b>                                                                                                                  | Schemes allotted by States for development                         |      |               |
|                                                                                                                            | (i) Schemes cleared by CEA and yet to be taken up for construction | 1    | 120           |
|                                                                                                                            | (ii) Schemes returned to project authorities                       | 1    | 60            |
|                                                                                                                            | <b>Total (i-ii)</b>                                                | 2    | 180           |

### 1. Identified Projects during Reassessment study :

| Sl.No.       | Name of Project | River   | I. C. (MW) |
|--------------|-----------------|---------|------------|
| 1            | Dilli Stor.     | Disang  | 33         |
| 2            | Jamuna Dam P/H  | Jamuna  | 28         |
| 3            | Diyung Dam P/H  | Diyung  | 47         |
| 4            | Langey          | Borpani | 37         |
| 5            | Kopili I        | Kopili  | 50         |
| 6            | Kopili II       | Kopili  | 265        |
| 7            | Lower Borpani   | Borpani | 90         |
| 8            | Amring          | Amring  | 40         |
| 9            | Upper Borpani   | Borpani | 60         |
| <b>TOTAL</b> |                 |         | <b>650</b> |

### 2. H.E. Projects in Operation:

| Sl.No. | Name of Project           | I. C (MW)  | Year of Commissioning |
|--------|---------------------------|------------|-----------------------|
| 1      | Karbi Langpi (L. Borpani) | 100        | 2007                  |
| 2      | Kopili                    | 225        | 1988-2003             |
| 3      | Khandong                  | 50         | 1984                  |
|        | <b>Total</b>              | <b>375</b> |                       |

### 3. H.E. Projects Cleared/Appraised by CEA:

| Sl No. | Name of Project | Agency | I.C. (MW)  | Date of CEA Concurrence |
|--------|-----------------|--------|------------|-------------------------|
| 1      | Lower Kopli     | APGCL  | 120        | 24.05.2016              |
|        | <b>Total</b>    |        | <b>120</b> |                         |

### 4. H.E. Projects Returned to Project Authorities for re-submission after compliance of observations:

| Sl. No | Name of Scheme          | Agency | I.C. (MW) | Reason of Return                                                                                                                                                                                                                    |
|--------|-------------------------|--------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | Karbi langpi(U.Borpani) | ASEB   | 60        | Returned due to involvement of interstate aspects with Meghalaya, updated hydrology not been utilized for carrying out power potential study, cost estimates not framed at current PL and inadequate geological investigations etc. |

### 5. H.E. schemes involving Inter-State aspects:

| Sl. No. | Name of Scheme/ I.C.                        | Total I.C. ( MW) | Location (State) | States Involved  | Status                                                                                                                                                                                                                                                                                                                        |
|---------|---------------------------------------------|------------------|------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | Karbi Langpi (Upper Borpani) (2x30 = 60 MW) | 60               | Assam            | Meghalaya /Assam | <ul style="list-style-type: none"> <li>DPR with estimated cost of Rs 127.47 crores (1984 PL) returned in 04/1988</li> <li>DPR resubmitted in Nov., 08 and returned in Dec., 2008 due to involvement of interstate aspects still remaining un-resolved with Meghalaya and inadequate geological investigations etc.</li> </ul> |

## HYDRO POWER DEVELOPMENT IN BIHAR

### Identified Hydro Power Potential and its status of Development:

|                                                                                                                            | Nos. | Capacity (MW) |
|----------------------------------------------------------------------------------------------------------------------------|------|---------------|
| Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW) | 1    | 40            |
| Schemes allotted by States for development                                                                                 |      |               |
| Schemes under Examination in CEA                                                                                           | 1    | 130           |

Identified project namely East Gandak Canal has been developed with installed capacity below 25 MW

### 1. Identified Projects during Reassessment study :

| Sl.No. | Name of Project      | River  | I. C. (MW) |
|--------|----------------------|--------|------------|
| 1      | Eastern Gandak Canal | Gandak | 40         |
| TOTAL  |                      |        | 40         |

### 2. Hydroelectric Schemes under operation in Bihar (above 25 MW):

At present, no hydroelectric scheme (above 25 MW) is under operation in Bihar. Four H.E. Schemes having installed capacity of 44.9MW, consisting of Kosi (20MW), Sone Western Canal (6.6MW), Sone Eastern Canal (3.3MW) and Eastern Gandak (15MW), are in operation in Bihar which are all below 25MW capacity each.

### 3. Schemes under Construction:

At present no hydro scheme is under construction in Bihar.

### 4. Schemes under Examination in CEA:

| Sl. No. | Scheme/ State/ Agency/ MW            | Month of Receipt | I. C. (MW) | Est. Cost (Rs. Crs.) Price Level | Status                                                                                                                                                                                                                                                                                                                                                 |
|---------|--------------------------------------|------------------|------------|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Dagmara /Bihar/ BSHPCL/(17x7.6 5 MW) | 04/12            | 130        | 1172.33 (without IDC) (03/2011)  | Concurrence meeting held on 20.03.2013. Concurrence was not accepted by the Authority due to high Project cost & tariff. Developer submitted reduced cost of the project which was on higher side and to comply with the observations of CEA, CWC & GSI which are awaited. Complete information regarding reduction / review of cost is still awaited. |

## Hydro Power Development in Chhattisgarh

### Identified Hydro Power Potential and its status of Development:

|                                                                                                                                   |                                                   |                                                                       | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-----------------------------------------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> |                                                   |                                                                       | 15   | 2202          |
| <b>I</b>                                                                                                                          | <b>Capacity in operation</b>                      |                                                                       | 1    | 120           |
| <b>II</b>                                                                                                                         | <b>Schemes allotted by States for development</b> |                                                                       |      |               |
|                                                                                                                                   | <b>(i)</b>                                        | <b>Schemes cleared by CEA and yet to be taken up for construction</b> | 1    | 60            |

### 1. Identified Projects during Reassessment study :

| Sl.No. | Name of Project | River     | I. C. (MW) |
|--------|-----------------|-----------|------------|
| 1      | Joka            | Kanhar    | 28         |
| 2      | Kharauli        | Mahan     | 46         |
| 3      | Pasal           | Rihand    | 55         |
| 4      | Duniadhin       | Rihand    | 80         |
| 5      | Karri           | Rihand    | 70         |
| 6      | Hasdeo (Bango)  | Hasdeo    | 55         |
| 7      | Konta           | Sabari    | 65         |
| 8      | Chitrakot       | Indravati | 38         |
| 9      | Bodhghat        | Indravati | 295        |
| 10     | Kutru-I         | Indravati | 100        |
| 11     | Kutru-II        | Indravati | 155        |
| 12     | Nugur-I         | Indravati | 160        |

|              |               |             |     |
|--------------|---------------|-------------|-----|
| 13           | Bhopalapatnam | Indravati   | 715 |
| 14           | Nugur-II      | Indravati   | 270 |
| 15           | Kotri         | Kotri       | 70  |
| <b>TOTAL</b> |               | <b>2202</b> |     |

## 2. H.E. Projects in Operation:

| Sl.No. | Name of Project | Agency | I. C. (MW) | Likely Commissioning |
|--------|-----------------|--------|------------|----------------------|
| 1      | Hasdeo Bango    | CSPGCL | 120        | 1994, 95             |
|        | <b>Total</b>    |        | <b>120</b> |                      |

## 3. H.E. Projects Cleared/Appraised by CEA:

| Sl No | Name of Project | Agency       | I.C. (MW) | Date of CEA Concurrence | Status           |
|-------|-----------------|--------------|-----------|-------------------------|------------------|
| 1     | Matnar HEP      | CSPCPL       | 60        | 19.08.04                | EC & FC awaited. |
|       |                 | <b>Total</b> | <b>60</b> |                         |                  |

## 4. H.E. schemes held up due to Inter-State aspects:

| Sl. No. | Name of Scheme/ I.C. | I.C. ( MW) | Location (State) | States Involved                           | Status                                                                                                                                                                                                                                                                                                            |
|---------|----------------------|------------|------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | Matnar (3x20 =60 MW) | 60         | Chhattisgarh     | Chhatisgarh/<br>Andhra Pradesh/<br>Orissa | <ul style="list-style-type: none"> <li>Cleared by CEA on 19.08.2004 at an estimated cost of Rs. 313.35 crores (3/2004 PL).</li> <li>Indravati is one of the tributary of Godavari and flows through Orissa, Chattisgarh and Andhra Pradesh. It is an inter State river between Chattisgarh and Orissa.</li> </ul> |

|  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--|--|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  |  |  | <p>Chattisgarh (erstwhile Madhya Pradesh) and Orissa entered into an inter-State agreement for sharing of Indravati river water on 11<sup>th</sup> July, 1979.</p> <ul style="list-style-type: none"> <li>• Chhatisgarh State Power Generation Company Ltd. (CSPGCL) has informed in April, 2009 that the concerned neighboring State will not have any problem as Matnar HEP is a Run-of-river scheme and would not affect the existing pattern of river flow.</li> <li>• CSPGCL has also informed that distribution pattern of agreed water quantity to be made available by Govt. of India in Indravati river and the matter has been taken up at highest level by the Water Resource Department of the two States.</li> <li>• Project involves 92 ha of forest land. Case of diversion of forest land was submitted to forest Dept. of Govt. of Chhattisgarh in March 2004. Case is under consideration of State Forest Dept. and yet to be forwarded by State Forest Dept to MOEF.</li> <li>• Issue of identifying degraded catchment area and submission of CAT plan is required for final clearance.</li> </ul> |
|--|--|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Hydro Power Development in Goa

### Identified Hydro Power Potential and its status of Development :

|                                                                                                                                   | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> | 1    | 55            |
| <b>Capacity yet to taken up for development</b>                                                                                   | 1    | 55            |

### 1. Identified Projects during Reassessment study :

| Sl.No.       | Name of Project | River     | I. C. (MW) |
|--------------|-----------------|-----------|------------|
| 1            | Sonal           | Mandavi   | 55         |
| <b>TOTAL</b> |                 | <b>55</b> |            |

### 2. H.E. schemes held up due to Inter-State aspects. :

| Sl. No. | Name of Scheme/ (I. C. ) | Total I.C. (MW) | Location (State) | States Involved | Status                                                                                                                                                                   |
|---------|--------------------------|-----------------|------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | Dudhsagar (2x15 =30 MW)  | 30              | Goa              | Goa/ Karnataka  | <ul style="list-style-type: none"> <li>DPR with project estimated cost of Rs 11.67 crores (1971 PL) was returned.</li> <li>Involves submergence in Karnataka.</li> </ul> |

## Hydro Power Development in Gujarat

### Identified Hydro Power Potential and its status of development:

|                                                                                                                                   | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> | 2    | 590           |
| <b>I Capacity in operation</b>                                                                                                    | 2    | 550           |

#Two schemes namely Ukai Dam and Sardar Sarovar were identified for an I.C of 590 MW. However as per actual, the I.C. is 550 MW

### 1. Identified Projects during Reassessment study :

| Sl.No.       | Name of Project | River   | I. C. (MW) |
|--------------|-----------------|---------|------------|
| 1            | Ukai Dam PH     | Tapti   | 120        |
| 2            | Sardar Sarovar  | Narmada | 470        |
| <b>TOTAL</b> |                 |         | <b>590</b> |

### 2. H.E. Projects in Operation :

| Sl. No. | Name of Project    | I. C. (MW) | Year of Commissioning |
|---------|--------------------|------------|-----------------------|
| 1.      | Ukai               | 300        | 1974-76               |
| 2.      | Sardar Sarovar-CPH | 250        | 2004                  |
|         | <b>Total</b>       | <b>550</b> |                       |

### 3. Pumped Storage H.E. Projects in operation :

| Sl. No. | Name of Project   | I. C.<br>(MW) | Year of Commissioning |
|---------|-------------------|---------------|-----------------------|
| 1.      | Kadana St. I&II # | 240           | 1990-98               |
| 1.      | Sardar Sarovar *  | 1200          | 2005-06               |
|         | <b>Total</b>      | <b>1440</b>   |                       |

**\*Note:** Not operational in pumping mode because Garudeshwar weir is in under construction. This will work as Lower reservoir. As per information available in CEA the project has been awarded in 2012 and further information will be available from Sardar Sarovar Narmada Nigam Limited.

**#** Not operating in pumping mode due to vibration problem.

## Hydro Power Development in Haryana

### Identified Hydro Power Potential and its status of Development:

|                                                                                                                             | Nos. | Capacity<br>(MW) | Percentage<br>(%) |
|-----------------------------------------------------------------------------------------------------------------------------|------|------------------|-------------------|
| Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)# | 1    | 64               | 100               |

#Western Yamuna Canal project (64 MW) has been developed in 4 stages each having Installed Capacity below 25 MW.

## Hydro Power Development in Himachal Pradesh

### Identified Hydro Power Potential and its status of Development :

|                                                                                                                                   |                                                                                       | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> |                                                                                       | 68   | 18540         |
| <b>I</b>                                                                                                                          | <b>Capacity in operation</b>                                                          | 26   | 9643          |
| <b>II</b>                                                                                                                         | <b>Capacity under construction</b>                                                    | 10   | 1997          |
| <b>III</b>                                                                                                                        | <b>Schemes allotted by States for development</b>                                     |      |               |
|                                                                                                                                   | (i) Schemes cleared by CEA and yet to be taken up for construction                    | 7    | 1782          |
|                                                                                                                                   | (ii) Schemes under Examination in CEA                                                 | 1    | 210           |
|                                                                                                                                   | (iii) Schemes returned to project authorities                                         | 1    | 200           |
|                                                                                                                                   | (iv) Schemes under S&I                                                                | 4    | 1141          |
|                                                                                                                                   | (v) H.E. Schemes allotted for development on which S&I is held up/ yet to be taken up | 6    | 1841          |
|                                                                                                                                   | <b>Total (i-v)</b>                                                                    | 19   | 5091          |
| <b>IV</b>                                                                                                                         | <b>Capacity yet to taken up for development</b>                                       | 13   | 1809          |

\*Excluding Schemes cleared by State Govt.

### 1. H.E. Projects in Operation :

| Sl.No. | Name of Project     | I.C.(MW)    | Year of Commissioning |
|--------|---------------------|-------------|-----------------------|
|        | <b>Satluj Basin</b> |             |                       |
| 1      | i) Bhakra (L)       | 540         | 1960, 61              |
| 2      | ii) Bhakra (R)      | 785         | 1966, 68              |
| 3      | Dehar               | 990         | 1977-83               |
| 4      | Pong                | 396         | 1978-83               |
| 5      | Rampur              | 412         | 2014-15               |
| 6      | Kol dam (NTPC)      | 800         | 2015                  |
| 7      | Karcham Wangtoo     | 1000        | 2011-12               |
| 8      | Kashang-I           | 65          | 2016                  |
| 9      | Kashang-II & III    | 130         | 2016-17               |
| 10     | Nathpa Jhakari      | 1500        | 2003-04               |
| 11     | Baspa               | 300         | 2003                  |
| 12     | Sanjay              | 120         | 1989                  |
|        | <b>Sub Total</b>    | <b>7038</b> |                       |

|   |                     |             |          |
|---|---------------------|-------------|----------|
|   | <b>Ravi Basin</b>   |             |          |
| 1 | Baira Siul          | 180         | 1980, 81 |
| 2 | Chamera St.I        | 540         | 1994     |
| 3 | Chamera St.II       | 300         | 2003-04  |
| 4 | Chamera St-III      | 231         | 2012     |
| 5 | Budhil              | 70          | 2012     |
| 6 | Chanju-I            | 24          | 2017     |
|   | <b>Sub Total</b>    | <b>1345</b> |          |
|   | <b>Beas Basin</b>   |             |          |
| 1 | Parbati St.III      | 520         | 2014     |
| 2 | Bassi               | 66          | 1970-81  |
| 3 | Malana-II           | 100         | 2011-12  |
| 4 | Larji               | 126         | 2006     |
| 5 | Malana              | 86          | 2001     |
| 6 | Allain Duhangan     | 192         | 2010-11  |
| 7 | Shanan              | 110         | 1932-82  |
|   | <b>Sub Total</b>    | <b>1200</b> |          |
|   | <b>Yamuna Basin</b> |             |          |
| 1 | Giri Bata           | 60          | 1978     |
|   | <b>Sub Total</b>    | <b>60</b>   |          |
|   | <b>Total</b>        | <b>9643</b> |          |

## 2. H.E. Schemes Under Construction :

| Sl. No. | Name of Project     | Agency                              | I.C. (MW)   | Likely Commissioning |
|---------|---------------------|-------------------------------------|-------------|----------------------|
|         | <b>Beas Basin</b>   |                                     |             |                      |
| 1       | Parbati St--II      | NHPC                                | 800         | 2018-19              |
| 2       | Sainj               | HPPCL                               | 100         | 2017-18              |
| 3       | Uhl- III            | Beas Valley Power Corp. Ltd. (BVPC) | 100         | 2017-18              |
|         | <b>Sub Total</b>    |                                     | <b>1000</b> |                      |
|         | <b>Satluj Basin</b> |                                     |             |                      |
| 1       | Sorang              | Himachal Sorang Power               | 100         | 2018-19              |
| 2       | Tidong-I            | M/s NSL Tidong                      | 100         | 2018-19              |
| 3       | Shontong Karcham    | HPPCL                               | 450         | 2019-20              |
|         | <b>Sub Total</b>    |                                     | <b>650</b>  |                      |
|         | <b>Yamuna Basin</b> |                                     |             |                      |

|   |                   |                                       |             |         |
|---|-------------------|---------------------------------------|-------------|---------|
| 1 | Sawara Kuddu      | HPPCL                                 | 111         | 2018-19 |
| 2 | Tangu Romai-I     | Tangu Romai Power Generation          | 44          | 2018-19 |
|   | <b>Sub Total</b>  |                                       | <b>155</b>  |         |
|   | <b>Ravi Basin</b> |                                       |             |         |
| 1 | Bajoli Holi       | GMR Bajoli Holi Hydro Power Pvt. Ltd. | 180         | 2019-20 |
| 2 | Chanju-I          | IA Energy                             | 12          | 2017-18 |
|   | <b>Sub Total</b>  |                                       | <b>192</b>  |         |
|   | <b>Total</b>      |                                       | <b>1997</b> |         |

### 3. H.E. Projects Cleared/Appraised by CEA :

| Sl. No. | Name of Project     | Agency   | I.C. (MW)  | Date of CEA Concurrence | Status                                                                                                                                                                                   |
|---------|---------------------|----------|------------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         | <b>Chenab Basin</b> |          |            |                         |                                                                                                                                                                                          |
| 1       | Chhatru             | DSC      | 126        | 15.1.2015               | EC & FC awaited.                                                                                                                                                                         |
| 2       | Miyar               | MHPCL    | 120        | 07.02.2013              | Environment cleared on 30.07.2012<br>Forest Clearance is awaited.                                                                                                                        |
| 3       | Dugar               | DHPL     | 449        | 20.12.16*               | EC & FC awaited.                                                                                                                                                                         |
|         | <b>Sub Total</b>    |          | <b>695</b> |                         |                                                                                                                                                                                          |
|         | <b>Satluj Basin</b> |          |            |                         |                                                                                                                                                                                          |
| 1       | Chango Yangthang    | MPCL     | 180        | 31.03.14                | EC & FC awaited.                                                                                                                                                                         |
|         | <b>Sub Total</b>    |          | <b>180</b> |                         |                                                                                                                                                                                          |
|         | <b>Ravi Basin</b>   |          |            |                         |                                                                                                                                                                                          |
| 1       | Kutehr              | JSWEPL   | 240        | 31.8.10                 | EC accorded on 05.07.2011. FC-I accorded 22.06.2011 and FC-II accorded on 19.02.2013. Validity of earlier bids has expired due to delay in obtaining FC-II and acquisition of Pvt. Land. |
|         | <b>Indus Basin</b>  |          |            |                         |                                                                                                                                                                                          |
| 1       | Seli                | SHPCL    | 400        | 27.10.16*               | EC and FC awaited                                                                                                                                                                        |
| 2       | Sanch Khas          | L&T HHPL | 267        | 27.10.16*               | EC and FC awaited                                                                                                                                                                        |
|         | <b>Sub Total</b>    |          | <b>667</b> |                         |                                                                                                                                                                                          |

|  |              |             |  |  |
|--|--------------|-------------|--|--|
|  | <b>Total</b> | <b>1782</b> |  |  |
|--|--------------|-------------|--|--|

\*Concurrence meeting date

#### 4. Hydro Schemes Under Examination/Scrutiny in CEA :

| Sl. No. | Name of Scheme | Sector  | I.C. (MW)  | Agency | Month of receipt |
|---------|----------------|---------|------------|--------|------------------|
| 1.      | Luhri-I        | central | 210        | SJVNL  | 01/17            |
|         | <b>Total</b>   |         | <b>210</b> |        |                  |

#### 5. H.E. Returned to Project Authorities for re-submission after compliance of observations:

| Sl. No. | Name of Scheme    | Agency | I.C. (MW)  | Reason of Return                                                                                                   |
|---------|-------------------|--------|------------|--------------------------------------------------------------------------------------------------------------------|
|         | <b>Ravi Basin</b> |        |            |                                                                                                                    |
| 1       | Bara Banghal      | MPCL   | 200        | DPR returned due to inadequate geological investigations, environmental & wild life issues, review of I.C. & Cost. |
|         | <b>Total</b>      |        | <b>200</b> |                                                                                                                    |

#### 6. H.E. Schemes Under Survey & Investigation:

| Sl. No. | Name of Scheme      | Basin/River | Agency for DPR          | Original I.C. (MW) | Date of MOA | Target date of Preparation of DPR |
|---------|---------------------|-------------|-------------------------|--------------------|-------------|-----------------------------------|
|         | <b>Beas Basin</b>   |             |                         |                    |             |                                   |
| 1       | Thana Plaun         | Beas        | HPPPCL                  | 141                | 22.9.2009   | 07/17                             |
| 2       | Nakhtan (Parbati-I) | Parbati     | HPPPCL                  | 520                | 22.9.2009   | 12/17                             |
|         | <b>Sub Total</b>    |             |                         | <b>661</b>         |             |                                   |
|         | <b>Chenab Basin</b> |             |                         |                    |             |                                   |
| 1       | Reoli Dugli         | Chenab      | L&T Power Ltd.          | 420                | 15.3.2011   | 07/17                             |
|         | <b>Sub Total</b>    |             |                         | <b>420</b>         |             |                                   |
|         | <b>Satluj Basin</b> |             |                         |                    |             |                                   |
| 1.      | Tidong-II           | Tidong      | Tidong Hydro Power Ltd. | 60                 | 20.1.2012   |                                   |
|         | <b>Sub Total</b>    |             |                         | <b>60</b>          |             |                                   |

|              |             |  |  |
|--------------|-------------|--|--|
| <b>Total</b> | <b>1141</b> |  |  |
|--------------|-------------|--|--|

**7. H.E. schemes allotted for development on which Survey & Investigation is held up/ yet to be taken up :**

| <b>Sl. No.</b> | <b>Scheme</b>       | <b>I.C.<br/>(MW)</b> | <b>Agency</b>       | <b>Date of<br/>Allotment/ MoA</b> | <b>Status</b>                                                                  |
|----------------|---------------------|----------------------|---------------------|-----------------------------------|--------------------------------------------------------------------------------|
|                | <b>Satluj Basin</b> |                      |                     |                                   |                                                                                |
| 1              | Khab                | 636                  | HPPCL               | 22.09.2009                        | S&I held up due to non-confirmation of firm levels                             |
| 2              | Sumte Kothang       | 130                  | Reliance Power Ltd. | 31.12.2012                        | S&I held up due to opposition from locals and NGOs                             |
| 3              | Lara Sumta          | 104                  | Reliance Power Ltd. | 31.12.2012                        | S&I held up due to opposition from locals and NGOs                             |
| 4              | Sunni Dam           | 528                  | SJVNL               | -                                 | SPV is to be formed between SJVN and State Govt . and MoA yet to be finalised. |
| 5              | Luhri st-II         | 143                  | SJVNL               | -                                 | SPV is to be formed between SJVN and State Govt . and MoA yet to be finalised. |
|                | <b>Sub Total</b>    | <b>1541</b>          |                     |                                   |                                                                                |
|                | <b>Chenab Basin</b> |                      |                     |                                   |                                                                                |
| 1              | Gyspa Dam           | 300                  | HPPCL               | 22.09.2009                        | S&I held up due to local agitation                                             |
|                | <b>Sub Total</b>    | <b>300</b>           |                     |                                   |                                                                                |
|                | <b>Total</b>        | <b>1841</b>          |                     |                                   |                                                                                |

## Hydro Power Development in Jammu and Kashmir

### Identified Hydro Power Potential and its status of Development:

|                                                                                                                                   |                                                                                         | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> |                                                                                         | 54   | 13543         |
| <b>I</b>                                                                                                                          | <b>Capacity in operation</b>                                                            | 12   | 3119          |
| <b>II</b>                                                                                                                         | <b>Capacity under construction</b>                                                      | 4    | 1265.5        |
| <b>III</b>                                                                                                                        | <b>Schemes allotted by States for development</b>                                       |      |               |
|                                                                                                                                   | (i) Schemes cleared by CEA and yet to be taken up for construction                      | 6    | 5043          |
|                                                                                                                                   | (ii) Schemes returned to project authorities                                            | 1    | 390           |
|                                                                                                                                   | (iii) H.E. Schemes allotted for development on which S&I is held up/ yet to be taken up | 1    | 370           |
|                                                                                                                                   | <b>Total (i-iii)</b>                                                                    | 8    | 5803          |
| <b>IV</b>                                                                                                                         | <b>Capacity yet to taken up for development</b>                                         | 30   | 3355          |

### 1. H.E. Projects in Operation :

| Sl.No. | Name of Project   | I.C. (MW) | Year of Commissioning |
|--------|-------------------|-----------|-----------------------|
| 1      | Salal-I           | 345       | 1987                  |
| 2      | Salal-II          | 345       | 1993-95               |
| 3      | Uri-I             | 480       | 1996-97               |
| 4      | Dulhasti          | 390       | 2007                  |
| 5      | Sewa-II           | 120       | 2010-11               |
| 6      | Chutak            | 44        | 2012-13               |
| 7      | Uri-II            | 240       | 2013-14               |
| 8      | Nimoo Bazgo       | 45        | 2013                  |
| 9      | Lower Jhelum      | 105       | 1978-79               |
| 10     | Upper Sindh st-II | 105       | 2001-02               |

|    |              |             |      |
|----|--------------|-------------|------|
| 11 | Baglihar     | 450         | 2008 |
| 12 | Baglihar-II  | 450         | 2015 |
|    | <b>Total</b> | <b>3119</b> |      |

## 2. H.E. Schemes Under Construction :

| Sl. No. | Name of Project | Agency   | I. C.<br>(MW) | Likely<br>Commissioning |
|---------|-----------------|----------|---------------|-------------------------|
| 1       | Kishan Ganga    | (NHPC)   | 330           | 2017-18                 |
| 2       | Ratle           | (RHEPPL) | 850           | 2021-22                 |
| 3       | Parnai          | JKSPDC   | 37.5          | 2020-21                 |
| 4       | Lower Kalnai    | JKSPDC   | 48            | 2020-21                 |
|         | <b>Total</b>    |          | <b>1265.5</b> |                         |

## 3. H.E. Projects Cleared/Appraised :

| Sl No. | Name of Project | Agency | I.C.<br>(MW) | Date of CEA<br>Concurrence | Status                                                                                                                                                |
|--------|-----------------|--------|--------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | New Ganderwal   | JKSPC  | 93           | 10.06.14                   | EC obtained on 27.9.13 and FC obtained on 02.04.2012.                                                                                                 |
| 2      | Pakal Dul       | CVPP   | 1000         | 03.10.06                   | EC accorded on 29.2.08 and FC-I accorded on 16.5.05 & FC-II on 15.12.15. Decision on finalization of bidding is under approval of Board of Directors. |
| 3      | Kiru            | CVPPL  | 624          | 13.06.16                   | EC obtained on 24.06.16 and FC obtained on 19.05.2016.                                                                                                |
| 4      | Kwar            | CVPP   | 540          | 23.02.17                   | EC accorded by EAC on 10.04.1017 & FC recommended by EAC on 08.08.2014.                                                                               |
| 5      | Kirthai-II      | JKPDC  | 930          | 27.12.16*                  | EC & FC awaited                                                                                                                                       |
| 6      | Sawalkote       | JKSPC  | 1856         | 27.12.16*                  | EC was recommended on 31.01.2017 & FC awaited                                                                                                         |
|        | <b>Total</b>    |        | <b>5043</b>  |                            |                                                                                                                                                       |

\* Concurrence meeting date

**4. Hydro Schemes Returned to Project Authorities for re-submission after compliance of observations:**

| Sl. No. | Name of Scheme | Agency | I.C. (MW)  | Remarks                                                           |
|---------|----------------|--------|------------|-------------------------------------------------------------------|
| 1       | Kirthai-I      | JKPDC  | 390        | Returned due to non submission of investigation suggested by GSI. |
|         | <b>Total</b>   |        | <b>390</b> |                                                                   |

**5. H.E. schemes allotted for development on which Survey & Investigation is held up/ yet to be taken up:**

| Sl. No. | Scheme       | I. C. (MW) | Agency | Date of Allotment/ MoA | Status                                                     |
|---------|--------------|------------|--------|------------------------|------------------------------------------------------------|
| 1       | Shamnot      | 370        | NHPC   | -                      | S&I held up as the project will submerge National Highway. |
|         | <b>Total</b> | <b>370</b> |        |                        |                                                            |

## Hydro Power Development in Jharkhand

### Identified Hydro Power Potential and its status of Development:

|                                                                                                                            | Nos. | Capacity (MW) |
|----------------------------------------------------------------------------------------------------------------------------|------|---------------|
| Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW) | 8    | 582           |
| Capacity in operation                                                                                                      | 2    | 170           |

#### 1. Identified Projects during Reassessment study :

| Sl.No. | Name of Project                 | River       | I. C. (MW) |
|--------|---------------------------------|-------------|------------|
| 1      | Panchet Hill                    | Damodar     | 40         |
| 2      | Maithon                         | Damodar     | 60         |
| 3      | Subernrekha MPP                 | Subernrekha | 30         |
| 4      | Koel Karo St-I (Lumpungkhel PH) | N.Koel      | 145        |
| 5      | Serengada                       | N.Koel      | 37         |
| 6      | Upper Sankh St-II               | Sankh       | 55         |
| 7      | Lower Sankh                     | Sankh       | 55         |
| 8      | Khadwan                         | Sone        | 160        |
| TOTAL  |                                 | 582         |            |

#### 2). H.E. Projects in Operation:

| Sl. No.      | Name of Project  | River       | I.C.<br>(MW) | Year of Commissioning |
|--------------|------------------|-------------|--------------|-----------------------|
| 1.           | Subernrekha I&II | Subernrekha | 130          | 1977,80               |
| 2.           | Panchet          | Damodar     | 40           | 1959                  |
| <b>TOTAL</b> |                  |             | <b>170</b>   |                       |

### 3). Pumped storage Projects in Operation:

| Sl. No. | Name of Project  | I. C.<br>(MW) | Remarks                                                                                             |
|---------|------------------|---------------|-----------------------------------------------------------------------------------------------------|
| 1.      | Panchet Hill-DVC | 40            | Not Working in Pumping Mode -<br>Tail Pool dam not constructed.<br>Land acquisition issue involved. |

### 4). Pumped storage Projects Proposed:

| Sl. No. | Name of Project | I. C.<br>(MW) | Upper Reservoir | Lower Reservoir | Remarks                                                                                       |
|---------|-----------------|---------------|-----------------|-----------------|-----------------------------------------------------------------------------------------------|
| 1.      | Lungupahar      | 2800          | Damodar River   | Bokaro River    | The consent of state Government is required by DVC to be take-up in Survey and Investigation. |

## Hydro Power Development in Karnataka

### Identified Hydro Power Potential and its status of Development:

|                                                                                                                                   |                                                    | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> |                                                    | 38   | 6459          |
| <b>I</b>                                                                                                                          | <b>Capacity in operation</b>                       | 16   | 3657.4        |
| <b>II</b>                                                                                                                         | <b>Schemes allotted by States for development</b>  |      |               |
|                                                                                                                                   | <b>(i) Schemes returned to project authorities</b> | 2    | 665           |

### 1. Identified Projects during Reassessment study

| Sl.No. | Name of Project         | River      | I. C. (MW) |
|--------|-------------------------|------------|------------|
| 1      | Krishnapur              | Mandavi    | 210        |
| 2      | Kalinadi I (Supa)       | Kalinadi   | 140        |
| 3      | Kalinadi I (Dandeli II) | Kalinadi   | 60         |
| 4      | Kalinadi I (Nagjhari)   | Kalinadi   | 855        |
| 5      | Kalinadi I (Kadassali)  | Kalinadi   | 95         |
| 6      | Kalinadi I (Kadra)      | Kalinadi   | 100        |
| 7      | Kalinadi I (Mardi)      | Kalinadi   | 175        |
| 8      | Gangavali (Bedti) St.I  | Gangavali  | 380        |
| 9      | Gangavali (Sonda) St.II | Gangavali  | 105        |
| 10     | Aghnashini              | Aghnashini | 370        |

|    |                     |             |      |
|----|---------------------|-------------|------|
| 11 | Bannehole           | Bannehole   | 55   |
| 12 | Linganamakki        | Saravathi   | 125  |
| 13 | Saravathi           | Saravathi   | 1365 |
| 14 | Saravathi Tail Race | Saravathi   | 157  |
| 15 | Varahi              | Varahi      | 305  |
| 16 | Machchattu          | Varahi      | 35   |
| 17 | Netravathy          | Netravathy  | 60   |
| 18 | Sirpadi             | Netravathy  | 38   |
| 19 | Kumaradhari         | Kumaradhari | 49   |
| 20 | Barapole I          | Barapole    | 335  |
| 21 | Jaldurg             | Krishna     | 270  |
| 22 | Narayanpur          | Krishna     | 70   |
| 23 | Almatti             | Krishna     | 160  |
| 24 | Ghataprabha         | Tungabhadra | 41   |
| 25 | Shivpur             | Tungabhadra | 26   |
| 26 | Munirabad           | Tungabhadra | 41   |
| 27 | Hampi               | Tungabhadra | 34   |
| 28 | Tungbhadra RBC      | Tungabhadra | 27   |
| 29 | Tungbhadra Dam PH   | Bhadra      | 36   |
| 30 | Krishnarajasagar    | Cauvery     | 55   |
| 31 | Shivasamudram       | Cauvery     | 44   |
| 32 | Shimsa PH-I         | Cauvery     | 31   |
| 33 | Cauvery PH-I        | Cauvery     | 235  |

|              |                |           |             |
|--------------|----------------|-----------|-------------|
| 34           | Shimsa PH-II   | Shimsha   | 42          |
| 35           | Arkavathi      | Arkavathi | 42          |
| 36           | Cauvery PH-II  | Cuvery    | 165         |
| 37           | Cauvery PH-III | Cauvery   | 90          |
| 38           | Cauvery PH-IV  | Cauvery   | 36          |
| <b>TOTAL</b> |                |           | <b>6459</b> |

## 2. H.E. Projects in Operation:

| Sl.No. | Name of Project  | Agency | I. C.<br>(MW) | Year of Commissioning |
|--------|------------------|--------|---------------|-----------------------|
| 1      | Sharavathy       | KPCL   | 1035          | 1965-77               |
| 2      | Lingnamakki      | KPCL   | 55            | 1979-80               |
| 3      | Bhadra           | KPCL   | 39.20         | 1962-98               |
| 4      | Kalinadi         | KPCL   | 855           | 1979-84               |
| 5      | Kalinadi (Supa ) | KPCL   | 100           | 1985                  |
| 6      | Varahi           | KPCL   | 460           | 1989-09               |
| 7      | Ghatprabha       | KPCL   | 32            | 1992                  |
| 8      | Kadra            | KPCL   | 150           | 1997, 99              |
| 9      | Kodasali         | KPCL   | 120           | 1998, 99              |
| 10     | Sharavathy TR    | KPCL   | 240           | 2000-02               |
| 11     | Almatti dam      | KPCL   | 290           | 2003-04,04-05         |
| 12     | Jog              | KPCL   | 139.2         | 1949-02               |
| 13     | Sivasamudram     | KPCL   | 42            | 1922, 34              |
| 14     | Munirabad        | KPCL   | 28            | 1962-65               |

|    |              |         |               |         |
|----|--------------|---------|---------------|---------|
| 15 | T.B.Dam*     | APGENCO | 36            | 1957-64 |
| 16 | Hampi*       | APGENCO | 36            | 1958-64 |
|    | <b>Total</b> |         | <b>3657.4</b> |         |

\* Utilities are in Andhra Pradesh

### 3. Hydel Generation Performance for three years:

| Year    | Target (MU) | Actual Generation (MU) | % of Actual Generation Vs Target |
|---------|-------------|------------------------|----------------------------------|
| 2014-15 | 12763       | 13160.30               | 103.11                           |
| 2015-16 | 12905       | 7479.37                | 57.96                            |
| 2016-17 | 11609       | 6772.35                | 58.34                            |

### 4. Hydro Schemes Returned to Project Authorities for re-submission after compliance of observations:

| Sl. No. | Name of Scheme | Agency | I.C. (MW)  | Reason of Return                                                                                                                                                                   |
|---------|----------------|--------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Sivasamudram   | KPCL   | 345        | Presentation meeting held on 16.5.2012 as it involves interstate issues; DPR could not be processed and returned the same for resubmission after resolution of interstate aspects. |
| 2       | Mahadayi       | KPCL   | 320        | Returned due to non-tie up of inputs/clearances, the project involves interstate aspects.                                                                                          |
|         | <b>Total</b>   |        | <b>665</b> |                                                                                                                                                                                    |

## 5. H.E. schemes held up due to Inter-State aspects:

| Sl. No. | Name of Scheme/<br>I.C.                         | Total<br>I.C.<br>( MW) | Location<br>(State) | States<br>Involved          | Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------|-------------------------------------------------|------------------------|---------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Brindavan<br>(2x6=12 MW)                        | 12                     | Karna-<br>taka      | TN/<br>Karnataka.           | <ul style="list-style-type: none"> <li>Sanctioned by Planning Commission in 4/1990 at an estimated cost of Rs.15.08 crores (3/1989 PL).</li> <li>On the objections of GOTN regarding clearance of the project, CEA indicated that the consumptive water use normally takes place in irrigation, drinking water etc and Brindavan HEP has no consumptive use implications.</li> </ul>                                                                                                                                                                                                                                                          |
| 2       | Cauvery Power Projects-<br>Mekadatu<br>(400 MW) | 400                    | Karnatak<br>a       | Kerala/<br>TN/<br>Karnataka | <ul style="list-style-type: none"> <li>Preliminary report of Stage-I was returned in 10/1996.</li> <li>Sharing of Cauvery water awarded by CWDT.</li> <li>With the consent of GOTN and GOK, NHPC took up S&amp;I and preparation of DPR.</li> <li>In the Core Group Meeting taken by secretary (Power) on 27.10.2004, it was agreed by GOK and GOTN that Shivasamudram (Karnataka) and Hogenekkal (T.N.) should be taken up simultaneously in the first phase and remaining two projects viz. Mekadatu and Rasimanal in the next phase.</li> <li>In the Core Group Meeting taken by Secretary (Power) on 21.06.2006, it was agreed</li> </ul> |

|  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--|--|--|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  |  |  | <p>that execution of these four projects through NHPC would be most viable proposition. It was decided that representatives of both the Govts. would take up the matter with their respective Govts. and seek their approval and thereafter necessary agreement will be signed between NHPC and the two State Govts. Consent by both the State Govts. was to be communicated to MOP by 31.07.2006. <b>The State of Karnataka in June, 2007 informed that Shivasamudram and Mekadatu will be executed by them in State sector.</b></p> <ul style="list-style-type: none"> <li>• KPCL informed in April, 2009 that the tribunal award is with Supreme Court.</li> <li>• Subsequently, a meeting was held on 08.07.2009 under the chairmanship of Secretary (Power) to discuss the pending issue of development of Hydroelectric Projects in Cauvery Basin. Secretary (Power) expressed that Shivasamudram being a Run of River Project with in the territory of Karnataka, Tamil Nadu should not have any objection to the development of the Project by the State Government. He further opined that there should not be any problem in taking up Shivasamudram Project by the State of</li> </ul> |
|--|--|--|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|          |                                                                                           |     |           |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------|-------------------------------------------------------------------------------------------|-----|-----------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                                                                                           |     |           |                             | <p>Karnataka provided there is joint mechanism for monitoring the water level/releases of water to Tamil Nadu. He suggested that the CWC could act as an observer in this regard and directed that the GOK would provide/share all the technical details of the Project to/with Tamil Nadu. Both the States Government were advised to consult CEA and CWC before finalization of designing of the Project.</p> <ul style="list-style-type: none"> <li>As regards other projects located in Tamil Nadu but whose submergence area partly falls in Karnataka, it was suggested the two Governments need to arrive at an arrangement for power sharing.</li> </ul> |
| <b>3</b> | <p>Cauvery Power Projects-</p> <p>Sivasamudram</p> <p>Seasonal</p> <p>(2x135= 270 MW)</p> | 270 | Karnataka | Kerala/<br>TN/<br>Karnataka | <ul style="list-style-type: none"> <li>Sharing of Cauvery water awarded by CWDT.</li> <li>With the consent of GOTN and GOK, NHPC took up S&amp;I and preparation of DPR.</li> <li>In the Core Group Meeting taken by secretary (Power) on 27.10.2004, it was agreed by GOK and GOTN that Shivasamudram (Karnataka) and Hogenekkal (TN) should be taken up simultaneously in the first phase and remaining two projects viz. Mekadatu (Karnataka) and Rasimanal (T.N.) in the next phase.</li> <li>In the Core Group Meeting taken by Secretary (Power) on 21.06.2006, it was agreed that</li> </ul>                                                              |

|  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--|--|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  |  |  | <p>execution of these four projects through NHPC would be most viable proposition. It was decided that representatives of both the Govts. would take up the matter with their respective Govts. and seek their approval and thereafter necessary agreement will be signed between NHPC and the two State Govts. Consent by both the State Govts. was to be communicated to MOP by 31.07.2006. <b>The State of Karnataka in June, 2007 informed that Shivasamudram and Mekadatu will be executed by them in State sector.</b></p> <ul style="list-style-type: none"> <li>• Subsequently, a meeting was held on 08.07.2009 under the chairmanship of Secretary (Power) to discuss the pending issue of development of Hydroelectric Projects in Cauvery Basin. Secretary (Power) expressed that Shivasamudram being a Run of River Project within the territory of Karnataka, Tamil Nadu should not have any objection to the development of the Project by the State Government. He further opined that there should not be any problem in taking up Shivasamudram Project by the State of Karnataka provided there is joint mechanism for monitoring the water level/ releases of water to Tamil Nadu. He suggested that the</li> </ul> |
|--|--|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|           |                                           |                   |                |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------|-------------------------------------------|-------------------|----------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           |                                           |                   |                |                   | <p>CWC could act as an observer in this regard and directed that the GOK would provide/share all the technical details of the Project to/with Tamil Nadu Both the States Government were advised to consult CEA and CWC before finalization of designing of the Project.</p> <ul style="list-style-type: none"> <li>As regards other projects located in TN but whose submergence area partly falls in Karnataka, it was suggested the two Governments need to arrive at an arrangement for power sharing.</li> <li>KPCL submitted revised DPR of Shivasamudram Run of River Power Project(3x100+3x15=345 MW) in Cauvery Basin to CEA vide their letter dated 30.03.2012. In the presentation meeting held in CEA on 16.05.2012, it was decided in the meeting that due to non-resolution of Inter-State issues the DPR can not be examined and the same is returned.</li> </ul> |
| <b>4.</b> | Katla & Palna Diversion<br>(Augmentation) | Augmen-<br>tation | Karna-<br>taka | Goa/<br>Karnataka | <ul style="list-style-type: none"> <li>DPR with estimated cost of Rs 8.13 crores (1979 PL) returned in 10/1987.</li> <li>These two schemes are on tributaries to Mahadayi river. Unless inter-state dispute is resolved, this project cannot be taken up.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>5.</b> | Mahadayi<br>(2x10+ 2x150 =<br>320 MW)     | <b>320</b>        | Karna-<br>taka | Goa/<br>Karnataka | <ul style="list-style-type: none"> <li>DPR with estimated cost of Rs 850.05 crores returned in 08/2002.</li> <li>Involves trans - basin diversion of waters of</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|  |              |             |  |  |                                                                                                                                                                                                                                                                                                                                   |
|--|--------------|-------------|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |              |             |  |  | <p>Mahadayi river to Malaprabha river (Krishna basin).</p> <ul style="list-style-type: none"> <li>• State Govt. has constituted a Committee to prepare Master Plan for utilization of water available as Karnataka share.</li> <li>• Power project will be reviewed based on the revised allotment of water for power.</li> </ul> |
|  | <b>Total</b> | <b>1002</b> |  |  |                                                                                                                                                                                                                                                                                                                                   |

## Status of Hydro Electric Power Development in Kerala

### Identified Hydro Power Potential and its status of Development:

|                                                                                                                                   |                                                                           | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> |                                                                           | 28   | 3378          |
| <b>I</b>                                                                                                                          | <b>Capacity in operation</b>                                              | 13   | 1881.5        |
| <b>II</b>                                                                                                                         | <b>Capacity under construction</b>                                        | 2    | 100           |
| <b>III</b>                                                                                                                        | <b>Schemes allotted by States for development</b>                         |      |               |
|                                                                                                                                   | <b>(i) Schemes cleared by CEA and yet to be taken up for construction</b> | 1    | 163           |

### 1. Hydro Electric Projects in Operation :

| Sl.No. | Name of Project        | I.C. (MW)     | Year of Commissioning |
|--------|------------------------|---------------|-----------------------|
| 1      | Idukki                 | 780           | 1976 & 1985-86        |
| 2      | Sabaragiri             | 300           | 1960-67               |
| 3      | Kuttiadi & K Extension | 125           | 1972-2001             |
| 4      | Sholoyar               | 54            | 1956-68               |
| 5      | Sengulam               | 48            | 1954 - 01             |
| 6      | Nariamanglam           | 70            | 1961-63,2008-09       |
| 7      | Pallivasal             | 37.5          | 1948-01               |
| 8      | Poringalkuttu          | 32            | 1957-60               |
| 9      | Panniar                | 30            | 1963-01               |
| 10     | Idamalayar             | 75            | 1987                  |
| 11     | Lower Periyar          | 180           | 1997                  |
| 12     | Kakkad                 | 50            | 1999                  |
| 13     | Kuttiyadi Addln Extn   | 100           | 2010                  |
|        | <b>Total Kerala</b>    | <b>1881.5</b> |                       |

## 2. H.E. Schemes under Construction:

| Sl. No. | Name of Project | Agency | I.C. (MW)  | Likely Commissioning |
|---------|-----------------|--------|------------|----------------------|
| 1       | Pallivasal      | KSEB   | 60         | 2019-20              |
| 2       | Thottiyar       | KSEB   | 40         | 2019-20              |
|         | <b>Total</b>    |        | <b>100</b> |                      |

## 3. H.E. Projects Cleared/Appraised by CEA and yet to be taken up for construction:

| Sl. No. | Name of Project | Agency | I.C. (MW)  | Date of CEA Concurrence | Status                               |
|---------|-----------------|--------|------------|-------------------------|--------------------------------------|
| 1       | Athirappilly    | KSEB   | 163        | 31.03.05                | EC restored on 9.10.15. FC accorded. |
|         | <b>Total</b>    |        | <b>163</b> |                         |                                      |

## 4. H.E. schemes held up due to Inter-State aspects:

| Sl. No. | Name of Scheme/Installed Capacity      | I.C. MW | Location (State) | States Involved       | Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------|----------------------------------------|---------|------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1*      | Kerala Bhavani (MPP)<br>(3x50= 150 MW) | 150     | Kerala           | Kerala/T.N./Karnataka | <ul style="list-style-type: none"> <li>DPR with estimated cost of Rs 168.75 crores (1990-91 PL) returned in 01/1992.</li> <li>Final award of CWDT stated that the scheme involves trans- basin diversion of water of Bhavani, therefore it is not possible to allocate water for this project.</li> <li>Since the tribunal has ruled out trans-basin transfer (from inter state rivers), this project remains a non-starter. The final award of CWDT has been challenged by Kerala State before the Hon'ble Supreme Court of India.</li> </ul> |

|            |                                                           |     |        |                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------|-----------------------------------------------------------|-----|--------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>2.*</b> | <b>Mananthvady MPP<br/>(5x45 =225MW)</b>                  | 225 | Kerala | Kerala/T.N./<br>Karnataka | <ul style="list-style-type: none"> <li>• Earlier DPR with estimated cost of Rs 69.17 crores (1980 PL) returned in 07/1980.</li> <li>• Final award of CWDT stated that the scheme involves trans- basin diversion of water of Kabini, therefore it is not possible to allocate water for this project.</li> <li>• Since the tribunal has ruled out transbasin transfer (from inter state rivers), this project remains as a non-starter.</li> <li>• The final award of CWDT has been challenged by Kerala State before the Honourable Supreme Court of India.</li> </ul> |
| <b>3.</b>  | <b>Pandiar Punnapuzha<br/>Tail Race<br/><br/>(105 MW)</b> | 105 | Kerala | TN/Kerala                 | <ul style="list-style-type: none"> <li>• Earlier DPR with estimated cost of Rs 22.00 crores (12/1972 PL) returned in 07/82</li> <li>• Pproject envisages utilisation of tailrace waters of the proposed Pandiar Punnapuzha HEP of Tamil Nadu.</li> <li>• The project would be taken up if GOTN and Kerala come to a mutual agreement.</li> <li>• Inter-state issue is not resolved.</li> </ul>                                                                                                                                                                          |
| <b>4.*</b> | <b>Pambar<br/><br/>(40 MW)</b>                            | 40  | Kerala | T.N./Kerala/<br>Karnataka | <ul style="list-style-type: none"> <li>• Earlier DPR for 30 MW with estimated cost of Rs.65.46 crores (1989 PL) returned in 03/1990.</li> <li>• The project is also entangled with Cauvery Waters Disputes Tribunal (CWDT).</li> <li>• KSEB revised the scheme from earlier proposal of storage scheme to run-of-river scheme.</li> <li>• Non-Consumptive use of 5.6 TMC was proposed for power generation, which has been allowed by Tribunal subject to agreement with Tamil Nadu for schedule of water release.</li> </ul>                                           |

|  |  |  |  |  |                               |
|--|--|--|--|--|-------------------------------|
|  |  |  |  |  | • DPR is yet to be finalized. |
|--|--|--|--|--|-------------------------------|

(\*) Projects located in Cauvery basin.







## Hydro Power Development in Madhya Pradesh

### 1. Identified Hydro Power Potential as per reassessment Study :

|                                                                                                                                   |                                                    | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> |                                                    | 13   | 1970          |
| <b>I</b>                                                                                                                          | <b>Capacity in operation</b>                       | 9    | 2235          |
| <b>II</b>                                                                                                                         | <b>Capacity under construction</b>                 | 1    | 400           |
| <b>III</b>                                                                                                                        | <b>Schemes allotted by States for development</b>  |      |               |
|                                                                                                                                   | <b>(i) Schemes returned to project authorities</b> | 1    | 100           |

### 1. H.E. Projects in Operation:

| Sl. No. | Name of Project      | Agency | I.C (MW)    | Year of Commissioning |
|---------|----------------------|--------|-------------|-----------------------|
| 1.      | Indira Sagar         | NHDC   | 1000        | 2004-05               |
| 2.      | Omkareshwar          | NHDC   | 520         | 2007                  |
| 3.      | Gandhi Sagar         | MPPGCL | 115         | 1960-66               |
| 4.      | Bargi                | MPPGCL | 90          | 1988                  |
| 5.      | Ban Sagar Tons-I     | MPPGCL | 315         | 1991- 92              |
| 6.      | Rajghat              | MPPGCL | 45          | 1999                  |
| 7.      | Bansagar Tons PH-III | MPPGCL | 60          | 2000- 02              |
| 8.      | Bansagar Tons PH-II  | MPPGCL | 30          | 2002                  |
| 9.      | Madhikhera           | MPPGCL | 60          | 2006-07               |
|         | <b>Total</b>         |        | <b>2235</b> |                       |

## 2. Hydel Generation performance:

| Year    | Target (MU) | Actual Generation (MU) | % of Actual Generation Vs Target |
|---------|-------------|------------------------|----------------------------------|
| 2014-15 | 2575        | 2628.93                | 102.09                           |
| 2015-16 | 2621        | 1940.60                | 74.04                            |
| 2016-17 | 607         | 704.90*                | 116.13                           |

\* Tentative generation upto 31<sup>st</sup> August, 2016

## 3. H.E. Schemes Under Construction :

| Sl. No. | Name of Project  | I. C. (MW) | Agency | Likely Commissioning |
|---------|------------------|------------|--------|----------------------|
| 1.      | Maheshwar (pvt)* | 400        | SMHPCL | 2018-19              |
|         | <b>Total</b>     | <b>400</b> |        |                      |

\*- Works suspended since Nov-11 due to cash flow problem with developer- A high level committee under the chairmanship of Additional Chief Secretary (Finance) GoMP, was formed on 16<sup>th</sup> Oct, 2014 to find ways to complete the project. The committee has submitted its report on 2.5.2015. The committee has recommended three scenarios for commissioning the Maheshwar Project. Under the first scenario, another attempt to complete the project with the present private developer has been envisaged. Timeline for first scenario has elapsed (2<sup>nd</sup> August, 2015) without the promoter complying with its requirements. Currently, the process for revival of project under second scenario is underway which envisages government companies to take over the project company with the private developer being kept as a minority shareholder. Accordingly, lenders being Govt. companies are planning to acquire the majority equity by way of conversion of sub-debt into equity and invocation of pledge share.

- Likely commissioning after 1-½ year of restart of works.

## 4. Hydro Schemes Returned to Project Authorities for re-submission after compliance of observations:

| Sl. No. | Name of Scheme | Sector       | I.C. (MW)  | Month of Return |
|---------|----------------|--------------|------------|-----------------|
| 1.      | Sone           | State        | 100        | Apr-03          |
|         |                | <b>Total</b> | <b>100</b> |                 |

## 5. H.E. schemes held up due to Inter-State aspects :

| Sl. No. | Name of Scheme/<br>I. C.                | I.C.<br>MW | Location<br>(State) | States<br>Involved | Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------|-----------------------------------------|------------|---------------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | <b>Orcha MPP</b><br>(2x30+2x15 = 90 MW) | 90         | M.P.                | U.P./M.P.          | <ul style="list-style-type: none"> <li>DPR with estimated cost of Rs. 89.01 crores (3/1980 PL) returned in 07/1985.</li> <li>Inter-state aspects mainly relate to submergence under the reservoir as well as sharing of water below Orcha.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 2.      | <b>Ken</b><br>(2x15+2x10 = 50 MW)       | 50         | M.P.                | U.P./M.P.          | <ul style="list-style-type: none"> <li>DPR with estimated cost of Rs 202.06 crores returned in 2/1987.</li> <li>The yield at the project site and sharing of water u/s &amp; d/s of the project has been agreed between U.P. &amp; M.P. Both the States have also agreed for preparation of DPR for the Ken MPP and NWDA proposal for transfer of surplus water of Ken to Betwa u/s of Rajghat Dam.</li> <li>DPR for Ken-Betwa River Linking Project has been prepared by NWDA in Dec., 2008, copies of which were forwarded by them to Govt. of M.P. and Govt. of U.P. The status of the project was discussed by the respective Govts./NWDA/ MOWR in the meeting taken by Secretary (WR) on 04.08.2010 and it was decided that S&amp;I works will be taken up by NWDA on priority.</li> </ul> |



## Hydro Power Development in Maharashtra

### Identified Hydro Power Potential and its status of Development:

|                                                                                                                            | Nos. | Capacity (MW) |
|----------------------------------------------------------------------------------------------------------------------------|------|---------------|
| Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW) | 25   | 3314          |
| Capacity in operation                                                                                                      | 12   | 2647          |

### 1. Identified Projects during Reassessment study

| Sl.No.       | Name of Project | River       | I. C.<br>(MW) |
|--------------|-----------------|-------------|---------------|
| 1            | Vaitarna I      | Vaitarna    | 28            |
| 2            | Bhira Tail Race | Kundalik    | 55            |
| 3            | Tillari         | Tillari     | 39            |
| 4            | Pench           | Pench       | 85            |
| 5            | Pathri          | Wainganga   | 40            |
| 6            | Wainganga       | Wainganga   | 150           |
| 7            | Samda           | Pranhita    | 95            |
| 8            | Ghargaon        | Pranhita    | 105           |
| 9            | Kunghara        | Pranhita    | 115           |
| 10           | Pranhita        | Pranhita    | 310           |
| 11           | Sahasrakund I   | Penganga    | 29            |
| 12           | Bhivpuri        | Andhra      | 85            |
| 13           | Khopoli         | Ganga       | 70            |
| 14           | Bhira           | Mula        | 215           |
| 15           | Koyna St-IV     | Koyna       | 350           |
| 16           | Koyna St-III    | Koyna       | 145           |
| 17           | Koyna St-I & II | Koyna       | 245           |
| 18           | Koyna Dam PH    | Koyna       | 65            |
| 19           | Patharpunj      | Varna       | 29            |
| 20           | Kadvi           | Varna       | 215           |
| 21           | Varna           | Varna       | 27            |
| 22           | Kasari-I        | Kasari      | 215           |
| 23           | Kubhi-I         | Penganga    | 170           |
| 24           | Kumbhi-II       | Penganga    | 27            |
| 25           | Hiranyakeshi II | Vedganga    | 405           |
| <b>TOTAL</b> |                 | <b>3314</b> |               |

## 2. H.E. Projects in Operation:

| Sl.No. | Name of Scheme  | Agency         | I.C.<br>(MW) | Year of Commissioning |
|--------|-----------------|----------------|--------------|-----------------------|
| 1      | Koyna I & II    | MAHAGENCO      | 600          | 1962-67               |
| 2      | Koyna III       | MAHAGENCO      | 320          | 1975-78               |
| 3      | Koyna DPH       | MAHAGENCO      | 36           | 1980-81               |
| 4      | Vaitarna        | MAHAGENCO      | 60           | 1976                  |
| 5      | Bhira Tail Race | MAHAGENCO      | 80           | 1987-88               |
| 6      | Tillari         | MAHAGENCO      | 60           | 1986                  |
| 7      | Koyna St-IV     | MAHAGENCO      | 1000         | 1999-2000             |
| 8      | Bandhardhara-II | DLHP(Private)  | 34           | 1996                  |
| 9      | Bhira           | Tata (Private) | 150          | 1927-49               |
| 10     | Bhivpuri        | Tata (Private) | 75           | 1997-1999             |
| 11     | Khopoli         | Tata (Private) | 72           | 2001-2003             |
| 12.    | Pench           | MPPGCL         | 160          | 1986-87               |
|        |                 | <b>Total</b>   | <b>2647</b>  |                       |

## 3. Hydel Generation Performance for three years:

| Year    | Target (MU) | Actual Generation<br>(MU) | % of Actual Generation<br>Vs Target |
|---------|-------------|---------------------------|-------------------------------------|
| 2014-15 | 5652        | 5678.01                   | 100.46                              |
| 2015-16 | 5842        | 5078.88                   | 86.94                               |
| 2016-17 | 6208        | 5923.70                   | 95.42                               |

## 4. Pumped storage H.E Projects in operation:

| Sl. No. | Name of Project | I. C.<br>(MW) | Remarks               |
|---------|-----------------|---------------|-----------------------|
| 1.      | Bhira           | 1x150=150     | Pumping Mode- Working |
| 2.      | Ghatgar         | 2x125=250     | Pumping Mode- Working |
|         | <b>Total</b>    | <b>400</b>    |                       |

### 5. Pumped storage H.E. Projects under Construction:

| Sl. No. | Name of Project | I. C.<br>(MW) | Remarks                         |
|---------|-----------------|---------------|---------------------------------|
| 1.      | Koyna Left Bank | 2x40=80       | Likely commissioning by 2019-20 |
|         | <b>Total</b>    | <b>80</b>     |                                 |

### 6. H.E. schemes held up due to Inter-State aspects:

| Sl. No. | Name of Scheme/<br>I.C.            | Total<br>I.C.<br>( MW) | Location<br>(State) | States<br>Involved        | Status                                                                                                                                                                                                                                          |
|---------|------------------------------------|------------------------|---------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Bhivpuri (Private)<br>(1x90=90 MW) | 90                     | Maharashtra         | Maha/<br>Karnataka/<br>AP | <ul style="list-style-type: none"><li>• Cleared by CEA in 5/1991 at an estimated cost of Rs. 89.87 crores (11/1989 PL).</li><li>• Involves interstate aspect with A P &amp; Karnataka regarding Westward Diversion of Krishna Waters.</li></ul> |

## Hydro Power Development in Manipur

### Identified Hydro Power Potential and its status of Development:

|                                                                                                                                   |                                                                           | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> |                                                                           | 15   | 1761          |
| <b>I</b>                                                                                                                          | <b>Capacity in operation</b>                                              | 1    | 105           |
| <b>II</b>                                                                                                                         | <b>Schemes allotted by States for development</b>                         |      |               |
|                                                                                                                                   | <b>(i) Schemes cleared by CEA and yet to be taken up for construction</b> | 1    | 66            |

### 1. Identified Projects during Reassessment study:

| Sl.No. | Name of Project     | River    | I. C. (MW) |
|--------|---------------------|----------|------------|
| 1      | Laniye-II           | Laniye   | 27         |
| 2      | Laniye-I            | Laniye   | 34         |
| 3      | Khongnem Chakha-II  | Barak    | 90         |
| 4      | Khongnem Chakha-III | Barak    | 48         |
| 5      | Nungnang            | Irang    | 70         |
| 6      | Nungliban           | Leimatek | 85         |
| 7      | Khunou              | Leimatek | 115        |
| 8      | Thinghat            | Tuivai   | 41         |
| 9      | Sinjal              | Tuivai   | 39         |
| 10     | Bungpuilong         | Tuivai   | 80         |
| 11     | Tipaimukh           | Barak    | 510        |

|              |               |             |      |
|--------------|---------------|-------------|------|
| 12           | Irang         | Irang       | 75   |
| 13           | Pabaram Stor. | Barak       | 232  |
| 14           | Loktak        | Loktak      | 105  |
| 15           | Tuivai        | Tuivai      | 210* |
| <b>TOTAL</b> |               | <b>1761</b> |      |

\*Tuivai is being developed in Mizoram

## 2. H.E. Projects in Operation:

| Sl.No. | Name of Project | Agency | I. C.<br>(MW) | Year of Commissioning |
|--------|-----------------|--------|---------------|-----------------------|
| 1      | Loktak          | NHPC   | 105           | 1983                  |
|        | <b>Total</b>    |        | <b>105</b>    |                       |

## 3. Hydel Generation Performance for three years:

| Year    | Target (MU) | Actual Generation<br>(MU) | % of Actual Generation Vs<br>Target |
|---------|-------------|---------------------------|-------------------------------------|
| 2014-15 | 520         | 372.44                    | 71.62                               |
| 2015-16 | 500         | 536.64                    | 107.33                              |
| 2016-17 | 515         | 741.07                    | 143.90                              |

## 4. H.E. Projects cleared by CEA :

| Sl No | Name of Project | Agency | I.C.<br>(MW) | Date of<br>concurrence                     | Status                                             |
|-------|-----------------|--------|--------------|--------------------------------------------|----------------------------------------------------|
| 1     | Loktak D/S      | LDHCL  | 66           | 4.11.2016<br>(concurrence<br>meeting date) | EC & FC accorded.<br>Tendering work to be<br>done. |
|       | <b>Total</b>    |        | <b>66</b>    |                                            |                                                    |



## Hydro Power Development in Meghalaya

### Identified Hydro Power Potential as per reassessment Study:

|                                                                                                                                   |                                                                                        | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> |                                                                                        | 25   | 2298          |
| <b>I</b>                                                                                                                          | <b>Capacity in operation</b>                                                           | 5    | 322           |
| <b>II</b>                                                                                                                         | <b>Schemes allotted by States for development</b>                                      |      |               |
|                                                                                                                                   | (i) Schemes cleared by CEA and yet to be taken up for construction                     | 1    | 270           |
|                                                                                                                                   | (ii) Schemes under Examination in CEA                                                  | 1    | 210           |
|                                                                                                                                   | (iii) Schemes under S&I                                                                | 4    | 384           |
|                                                                                                                                   | (iv) H.E. Schemes allotted for development on which S&I is held up/ yet to be taken up | 2    | 620           |
|                                                                                                                                   | <b>Total (i-iv)</b>                                                                    | 8    | 1484          |

### 1. Identified Projects during Reassessment study

| Sl.No. | Name of Project  | River    | I. C. (MW) |
|--------|------------------|----------|------------|
| 1      | Umlamphang       | Umiam    | 28         |
| 2      | Umiam Umtru-III  | Umiam    | 41         |
| 3      | Umiam Umtru-IV   | Umiam    | 38         |
| 4      | Umiam Umtru-V    | Umiam    | 27         |
| 5      | Umiam Umtru-VI   | Umiam    | 145        |
| 6      | Simsang Dam P.H. | Someshri | 65         |
| 7      | Kynshi-I Stor.   | Kynshi   | 295        |
| 8      | Sushen           | Myntdu   | 150        |
| 9      | Selim            | Myntdu   | 125        |
| 10     | Umjaut           | Umjaut   | 85         |
| 11     | Umduma           | Umtrew   | 95         |

|              |                 |          |             |
|--------------|-----------------|----------|-------------|
| 12           | Manhu           | Umtru    | 90          |
| 13           | Nonglyngkien    | Umtru    | 47          |
| 14           | Umngi Storage   | Umngi    | 35          |
| 15           | Rangmaw         | Umngi    | 42          |
| 16           | Nongkolait      | Umngi    | 180         |
| 17           | Nongnam         | Umngi    | 36          |
| 18           | Mawpat          | Umngi    | 55          |
| 19           | Kynshi-II       | Umrilang | 175         |
| 20           | Nongmawlar      | Kynshi   | 29          |
| 21           | Mawsyrpat       | Kynshi   | 45          |
| 22           | Mawthaba        | Kynshi   | 70          |
| 23           | Mawblei Storage | Kynshi   | 100         |
| 24           | Amagam Storage  | Rongdi   | 35          |
| 25           | Umngot Stor.    | Umngot   | 265         |
| <b>TOTAL</b> |                 |          | <b>2298</b> |

### 1. H.E. Projects in Operation :

| Sl.No. | Name of Project | I. C.<br>(MW) | Year of Commissioning |
|--------|-----------------|---------------|-----------------------|
| 1      | Kyrdemkulai     | 60            | 1979                  |
| 2      | Umiar St.I      | 36            | 1965                  |
| 3      | Umiar St.IV     | 60            | 1992                  |
| 4      | Myntdu St.-I    | 126           | 2012                  |
| 5      | New Umtru       | 40            | 2017                  |
|        | <b>Total</b>    | <b>322</b>    |                       |

## 2. H.E. Projects Cleared/Appraised by CEA:

| Sl No. | Name of Project | Agency | I.C.<br>(MW) | Date of CEA<br>Concurrence | Status          |
|--------|-----------------|--------|--------------|----------------------------|-----------------|
| 1      | Kynshi-I        | AKPPL  | 270          | 31.3.2015                  | EC & FC awaited |
|        | <b>Total</b>    |        | <b>270</b>   |                            |                 |

## 3. Hydro Schemes Under Examination/Scrutiny in CEA:

| Sl. No. | Name of Project | Agency | I.C.<br>(MW) | Month of receipt |
|---------|-----------------|--------|--------------|------------------|
| 1       | Umangot HEP     | MePGCL | 210          | Mar-13           |
|         | <b>Total</b>    |        | <b>210</b>   |                  |

## 4. Hydro Schemes Under Survey & Investigation:

| Sl. No. | Name of Scheme           | Basin/River | Agency                            | Original<br>I.C.<br>(MW) | Date of<br>MOA                     | Target date<br>of<br>Preparation<br>of DPR |
|---------|--------------------------|-------------|-----------------------------------|--------------------------|------------------------------------|--------------------------------------------|
| 1       | Umiew (Mawphu<br>St.-II) | Umiew       | NEEPCO                            | 85                       | 20.4.12                            | 06/17                                      |
| 2       | Umduna                   | Barak       | ETA Star<br>Infrastructure<br>Ltd | 90                       | Dec.<br>2007/<br>Rev. Nov.<br>2008 | 06/17                                      |
| 3       | Umjaut                   | Umiew       | ETA Star<br>Infrastructure<br>Ltd | 69                       | Dec.<br>2007/<br>Rev. Nov.<br>2008 | 06/17                                      |
| 4       | Myntdu Leshka<br>st-II   | Myntdu      | MePGCL                            | 140                      | 20.4.12                            | 2019                                       |
|         | <b>Total</b>             |             |                                   | <b>384</b>               |                                    |                                            |

**5. H.E. schemes allotted for development on which Survey & Investigation is held up/ yet to be taken up:**

| Sl. No. | Name of Scheme | I. C.<br>(MW) | Agency                                                | Date of<br>Allotment/<br>MoA | Status                                                                                                                                                               |
|---------|----------------|---------------|-------------------------------------------------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Kynshi-II      | 450           | GoMe &<br>Jaiprakash<br>Power<br>Venture Ltd.<br>(JV) | 11.12.2007                   | S&I held up on account of non-finalisation of dam location/height due to deposit of Uranium.                                                                         |
| 2       | Selim          | 170           | NEEPCO                                                | 2008                         | First Consultation meeting held on 28.05.2014.<br>STC has given clearance for conversion from Storage to Run-of-River Scheme in its 10th meeting held on 11.06.2015. |
|         | <b>Total</b>   | <b>620</b>    |                                                       |                              |                                                                                                                                                                      |

## Hydro Power Development in Mizoram

### Identified Hydro Power Potential and its status of Development:

|                                                                                                                            | Nos. | Capacity (MW) |
|----------------------------------------------------------------------------------------------------------------------------|------|---------------|
| Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW) | 7    | 2131          |
| Capacity under construction                                                                                                | 1    | 60            |

### 1. Identified schemes during reassessment study.

| S. No.       | Name of Scheme | River       | IC<br>(As per Reassessment ) |
|--------------|----------------|-------------|------------------------------|
| 1            | Lunglang Stor. | Tyao        | 690                          |
| 2            | Boinu Stor.    | Kaldan      | 635                          |
| 3            | Mat            | Mat         | 90                           |
| 4            | Sonai          | Sonai       | 55                           |
| 5            | Deh            | Deh         | 26                           |
| 6            | Bhairabi       | Dhaleshwari | 90                           |
| 7            | Kaldan Stor.   | Kaldan      | 545                          |
| <b>TOTAL</b> |                |             | <b>2131</b>                  |

### 2. H.E. Schemes Under Construction.

| Sl. No. | Name of Project | Implementing Agency | Installed Capacity (MW) | Likely Commissioning |
|---------|-----------------|---------------------|-------------------------|----------------------|
| 1       | Tuirial         | NEEPCO              | 60                      | 2017-18              |
|         | <b>Total</b>    |                     | <b>60</b>               |                      |

- Tuivai scheme (210 MW) was identified in Manipur during the reassessment study. The scheme was concurred by CEA during 1999. The scheme is yet to be taken up under construction.

## Hydro Power Development in Nagaland

### Identified Hydro Power Potential and its status of Development:

|                                                                                                                                   |                                                                           | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> |                                                                           | 11   | 1452          |
| <b>I</b>                                                                                                                          | <b>Capacity in operation</b>                                              | 1    | 75            |
| <b>II</b>                                                                                                                         | <b>Schemes allotted by States for development</b>                         |      |               |
|                                                                                                                                   | <b>(i) Schemes cleared by CEA and yet to be taken up for construction</b> | 1    | 186           |

### 1. Identified Projects during Reassessment study

| Sl.No.       | Name of Project | River       | I. C. (MW) |
|--------------|-----------------|-------------|------------|
| 1            | Dikhu Lift Dam  | Dikhu       | 125        |
| 2            | Yangnyu Stor.   | Dikhu       | 135        |
| 3            | Jhanji storage  | Jhanji      | 75         |
| 4            | Doyang-V        | Doyang      | 55         |
| 5            | Dikhu Dam P.H.  | Dikhu       | 470        |
| 6            | Sakhai-II       | Tizu        | 31         |
| 7            | Khuzami         | Tizu        | 32         |
| 8            | Rurrur          | Zangki      | 36         |
| 9            | Zungki          | Zangki      | 48         |
| 10           | Laruri          | Tizu        | 80         |
| 11           | Tizu            | Tizu        | 365        |
| <b>TOTAL</b> |                 | <b>1452</b> |            |

## 2. H.E. Projects in Operation:

| Sl.No. | Name of Project | I. C.<br>(MW) | Year of Commissioning |
|--------|-----------------|---------------|-----------------------|
| 1      | Doyang          | 75            | 2000                  |
|        | <b>Total</b>    | <b>75</b>     |                       |

## 3. H.E. Projects Cleared/Appraised by CEA :

| Sl No. | Name of Project | Agency | I.C.<br>(MW) | Date of CEA<br>Concurrence | Status                                                                |
|--------|-----------------|--------|--------------|----------------------------|-----------------------------------------------------------------------|
| 1      | Dikhu HEP       | NMPPL  | 186          | 31.03.2014                 | FC not applicable<br>as forest land is<br>not involved. EC<br>awaited |
|        | <b>Total</b>    |        | <b>186</b>   |                            |                                                                       |

## Hydro Power Development in Odisha

### Identified Hydro Power Potential and its status of Development:

|                                                                                                                                   |                                                 | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> |                                                 | 13   | 2981          |
| <b>I</b>                                                                                                                          | <b>Capacity in operation</b>                    | 7    | 2142.3        |
| <b>II</b>                                                                                                                         | <b>Capacity yet to taken up for development</b> | 6    | 838.8         |

### 1. H.E. Projects in Operation:

| Sl.No. | Name of Project       | I.C. (MW)      | Year of Commissioning |
|--------|-----------------------|----------------|-----------------------|
| 1      | Hirakud I (Burla)     | 275.5          | 1956-63, 90           |
| 2      | Hirakud II (Chiplima) | 72             | 1962-64               |
| 3      | Balimela              | 510            | 1973-77, 2008         |
| 4      | Rengali               | 250            | 1985-92               |
| 5      | Upper Kolab           | 320            | 1988-93               |
| 6      | Upper Indravati       | 600            | 1999, 2000-01         |
| 7      | Machkund              | 114.75         | 1959                  |
|        | <b>Total</b>          | <b>2142.25</b> |                       |

## 2. H.E. schemes involving Inter-State aspects:

| Sl. No. | Name of Scheme/<br>I.C.               | Total<br>I.C.<br>( MW) | Location<br>(State) | States<br>Involved                                                     | Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------|---------------------------------------|------------------------|---------------------|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Sindol<br>(5x20+5x20+6x20<br>=320 MW) | 320                    | Orissa              | MP/<br>Chhatisgarh/<br>Bihar/<br>Jharkhand/<br>Orissa /<br>Maharashtra | <ul style="list-style-type: none"> <li>DPR with estimated cost of Rs.2246.14 crores (1994 PL) returned in 07/96 due to non-resolution of interstate aspect. The consent of the upstream States viz. Jharkhand, Bihar, M.P, Chhatisgarh and Maharashtra is not available.</li> <li>DPR is being revised by reducing Installed Capacity. Revised DPR yet to be submitted to CEA. Revised hydrology of Sindol-I for 100 MW has been submitted to CWC for clearance.</li> </ul> |

## Hydro Power Development in Punjab

### Identified Hydro Power Potential and its status of Development :

|                                                                                                                                   |                                    | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> |                                    | 5    | 971           |
| <b>I</b>                                                                                                                          | <b>Capacity in operation</b>       | 9    | 1096.3        |
| <b>II</b>                                                                                                                         | <b>Capacity under construction</b> | 1    | 206           |

### 1. Identified Projects during Reassessment study :

| Sl.No.       | Name of Project          | River      | I. C. (MW) |
|--------------|--------------------------|------------|------------|
| 1            | Mukerian Canal           | Beas       | 207        |
| 2            | Anadpur Sahib, Ph-I & II | Sutlej     | 134        |
| 3            | Thein                    | Ravi       | 325        |
| 4            | Shahpur                  | Ravi       | 215        |
| 5            | UBDC                     | Ravi       | 90         |
| <b>TOTAL</b> |                          | <b>971</b> |            |

### 2. H.E. Projects in Operation :

| Sl.No. | Name of Project | Agency | I.C. (MW) | Year of Commissioning |
|--------|-----------------|--------|-----------|-----------------------|
| 1      | Ganguwal        | BBMB   | 77.65     | 1952, 62              |
| 2      | Kotla           | BBMB   | 77.65     | 1956, 61              |
| 3      | Mukerian St-I   | PSPCL  | 45        | 1983                  |

|              |                          |       |               |         |
|--------------|--------------------------|-------|---------------|---------|
| 4            | Mukerian St-II           | PSPCL | 45            | 1988-89 |
| 5            | Mukerian St-III          | PSPCL | 58.5          | 1989    |
| 6            | Mukerian St-IV           | PSPCL | 58.5          | 1989    |
| 7            | A.P. Sahib St.I          | PSPCL | 67            | 1985    |
| 8            | A.P. Sahib St.II         | PSPCL | 67            | -       |
| 9            | Ranjit Sagar (Thein Dam) | PSPCL | 600           | 2000    |
| <b>Total</b> |                          |       | <b>1096.3</b> |         |

### 3. H.E. Schemes under Construction:

| Sl. No. | Name of Project | Implementing Agency | I. C. (MW) | Likely Commissioning |
|---------|-----------------|---------------------|------------|----------------------|
| 1       | Shahpurkandi*   | Irr. Deptt. & PSPCL | 206        | 2019-20**            |
|         | <b>Total</b>    |                     | <b>206</b> |                      |

\*- Works of Dam (J&K side) stopped since 30.08.2014 due to inter-state disputes between Punjab and J&K Government.

\*\* Subject to re-start of works

### 4. H.E. schemes held up due to Inter-State aspects:

| Sl. No. | Name of Scheme/<br>I. C.    | I.C.<br>MW | Location<br>(State) | States<br>Involved                | Status                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------|-----------------------------|------------|---------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | SYL<br><br>(2x18+2x7=50 MW) | 50         | Punjab              | Punjab/<br>Haryana/<br>Rajasthan. | <ul style="list-style-type: none"> <li>Cleared by CEA in 12/1987 at an estimated cost of Rs.101.28 crores (5/1985 PL).</li> <li>Work on the canal on which project is located is held up.</li> <li>Haryana and Rajasthan have raised question regarding their shares of power as it envisages utilizing common facilities and water belonging to all three states, viz. Haryana, Punjab &amp; Rajasthan.</li> </ul> |



## Hydro Power Development in Rajasthan

### Identified Hydro Power Potential and its status of Development :

|                                                                                                                                   | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> | 5    | 483           |
| <b>I Capacity in operation</b>                                                                                                    | 4    | 411           |

### 1. Identified Projects during Reassessment study :

| Sl.No.       | Name of Project        | River   | I. C. (MW) |
|--------------|------------------------|---------|------------|
| 1            | Gandhi Sagar           | Chambal | 115        |
| 2            | Rana Pratap Sagar      | Chambal | 172        |
| 3            | Jawahar Sagar          | Chambal | 99         |
| 4            | Mahi Bajaj Sagar St-II | Mahi    | 60         |
| 5            | Mahi Bajaj Sagar St-I  | Mahi    | 37         |
| <b>TOTAL</b> |                        |         | <b>483</b> |

### 2. H.E. Projects in Operation :

| Sl.No | Name of Project | Agency | I.C. (MW) | Likely Commissioning |
|-------|-----------------|--------|-----------|----------------------|
| 1     | R.P. Sagar      | RRVUNL | 172       | 1968                 |
| 2     | J. Sagar        | RRVUNL | 99        | 1972-73              |

|              |              |        |            |      |
|--------------|--------------|--------|------------|------|
| 3            | Mahibajaj I  | RRVUNL | 50         | 1986 |
| 4            | Mahibajaj II | RRVUNL | 90         | 1989 |
| <b>Total</b> |              |        | <b>411</b> |      |

**Note:**

- Mahi Bajaj Sagar I & II (140 MW) were identified for I.C. of 97 MW.
- Gandhi Sagar (115 MW) was identified in Rajasthan but has been developed in Madhya Pradesh.

## Status of Hydro Electric Potential Development in Sikkim

### Identified Hydro Power Potential and its status of Development :

|                                                                                                                                   |                                                   |                                                                                   | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-----------------------------------------------------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> |                                                   |                                                                                   | 24   | 4248          |
| <b>I</b>                                                                                                                          | <b>Capacity in operation</b>                      |                                                                                   | 6    | 2061          |
| <b>II</b>                                                                                                                         | <b>Capacity under construction</b>                |                                                                                   | 7    | 1230          |
| <b>III</b>                                                                                                                        | <b>Schemes allotted by States for development</b> |                                                                                   |      |               |
|                                                                                                                                   | (i)                                               | Schemes cleared by CEA and yet to be taken up for construction                    | 1    | 520           |
|                                                                                                                                   | (ii)                                              | Schemes returned to project authorities                                           | 2    | 576           |
|                                                                                                                                   | (iii)                                             | H.E. Schemes allotted for development on which S&I is held up/ yet to be taken up | 2    | 112           |
|                                                                                                                                   | <b>Total (i-iii)</b>                              |                                                                                   | 5    | 1208          |

### 1. H.E. Projects in Operation:

| Sl.No. | Name of Project     | Agency                                 | I.C. (MW)   | Year of Commissioning |
|--------|---------------------|----------------------------------------|-------------|-----------------------|
| 1      | Teesta- V (NHPC)    | NHPC                                   | 510         | 2008                  |
| 2      | Chujachen (Pvt)     | GIPL                                   | 99          | 2013                  |
| 3      | Jorethang Loop(pvt) | DEPL                                   | 96          | 2015                  |
| 4      | Rangit-III          | NHPC                                   | 60          | 2000                  |
| 5      | Teesta-III (Pvt)    | Teesta Urja Ltd                        | 1200        | 2017                  |
| 6      | Dikchu(Pvt)         | Sneha Kinetic Power Projects Pvt. Ltd. | 96          | 2017                  |
|        | <b>Total</b>        |                                        | <b>2061</b> |                       |

## 2. H.E. Projects under Construction:

| Sl. No | Name of Project  | Agency                               | I.C.<br>(MW) | Likely Commissioning |
|--------|------------------|--------------------------------------|--------------|----------------------|
| 1      | Teesta-VI (pvt)* | LANCO                                | 500          | 2021-22              |
| 2      | Rangit IV (Pvt)* | Jal Power corp. Ltd                  | 120          | 2019-20              |
| 3      | Bhasmey(Pvt.)    | Gati Infrastructure                  | 51           | 2019-20              |
| 4      | Tashiding(Pvt)   | Shiga Energy Pvt. Ltd                | 97           | 2017-18              |
| 5      | Rangit-II(Pvt)#  | Sikkim Hydro Power Ltd               | 66           | 2019-20              |
| 6      | Rongnichu        | Madhya Bharat Power corporation Ltd. | 96           | 2019-20              |
| 7      | Panan            | Himgiri Hydro Energy Pvt. Ltd.       | 300          | 2020-21              |
|        | <b>Total</b>     |                                      | <b>1230</b>  |                      |

\* Subject to re-start of works. # subject to active start of works.

## 3. H.E. Projects Cleared/Appraised by CEA :

| Sl. No | Name of Project | Agency       | I.C.<br>(MW) | Date of CEA<br>Concurrence | Status                                                                  |
|--------|-----------------|--------------|--------------|----------------------------|-------------------------------------------------------------------------|
| 1      | Teesta St-IV    | NHPC         | 520          | 13.05.10                   | EC cleared on 09.01.14.<br>FC-I cleared on 26.02.2013<br>FC-II awaited. |
|        |                 | <b>Total</b> | <b>520</b>   |                            |                                                                         |

## 4. Hydro Schemes Returned to Project Authorities for re-submission after compliance of observations:

| Sl. No. | Name of Scheme | Agency | I.C.<br>(MW) | Reason of Return                                                                                       |
|---------|----------------|--------|--------------|--------------------------------------------------------------------------------------------------------|
| 1       | Teesta st.-II  | HUIPL  | 480          | Incomplete geological investigations.<br>Review of dam location. Back water studies to be carried out. |

|   |              |        |            |                                                                                 |
|---|--------------|--------|------------|---------------------------------------------------------------------------------|
| 2 | Lethang      | KHCHPL | 96         | lack of barrage v/s dam design, review of I.C.,review of spillway capacity etc. |
|   | <b>Total</b> |        | <b>576</b> |                                                                                 |

#### 5. Hydro Schemes on which Survey & Investigation held up:

| Sl. No. | Name of Scheme | Basin/River            | Agency                        | Original I.C. (MW) | Date of MOA          |
|---------|----------------|------------------------|-------------------------------|--------------------|----------------------|
| 1       | Kalez khola    | Kalez khola/<br>Rangit | CWC                           | 72                 | 12.2.2007            |
| 2       | Suntaleytar    | Rangpochu              | Hindustan Electric Power Ltd. | 40                 | LOI date<br>23.02.12 |
|         | <b>Total</b>   |                        |                               | <b>112</b>         |                      |

## Status of Hydro Power Development in Tamil Nadu

### Identified Hydro Power Development and its status of Development:

|                                                                                                                                   | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> | 23   | 1693          |
| <b>Capacity in operation</b>                                                                                                      | 17   | 1803.2        |

### 1. Identified Projects during Reassessment study :

| Sl.No. | Name of Project             | River       | I. C. (MW) |
|--------|-----------------------------|-------------|------------|
| 1      | Pandiyar-Punnapuzha I       | Pandiyar    | 125        |
| 2      | Upper Aliyar                | Bharatpuzha | 90         |
| 3      | Periyar Lake                | Periyar     | 145        |
| 4      | Nirar                       | Idamalayar  | 26         |
| 5      | Sholaiyar- I                | Sholaiyar   | 75         |
| 6      | Sarkarpathi                 | Periyar     | 33         |
| 7      | Kodayar I                   | Kodayar     | 65         |
| 8      | Kodayar II                  | Kodayar     | 30         |
| 9      | Paraliyar                   | Paraliyar   | 39         |
| 10     | Mettur Dam PH               | Cauvery     | 32         |
| 11     | Mettur Tunnel PH            | Cauvery     | 100        |
| 12     | Lower Mettur                | Cauvery     | 115        |
| 13     | Bhawani Kattalai            | Cauvery     | 115        |
| 14     | Lower Bhawani               | Bhavani     | 34         |
| 15     | Lower Moyar                 | Moyar       | 33         |
| 16     | Moyar                       | Moyar       | 75         |
| 17     | Pykara (Singara)            | Moyar       | 115        |
| 18     | Pykara (Ultimate)           | Moyar       | 60         |
| 19     | Avalaanche Em'ld (Kundah-I) | Kundah      | 70         |
| 20     | Kundapallam (Kundah 2)      | Kundah      | 160        |
| 21     | Pengumbahalla (Kundah 3)    | Kundah      | 95         |
| 22     | Surullar                    | Suruliar    | 30         |

|              |           |             |    |
|--------------|-----------|-------------|----|
| 23           | Papanasam | Tambraparni | 31 |
| <b>TOTAL</b> |           | <b>1693</b> |    |

## 2. H.E. Projects in Operation:

| Sl.No. | Name of Project       | I.C.<br>(MW)  | Year of Commissioning |
|--------|-----------------------|---------------|-----------------------|
| 1      | Aliyar                | 60            | 1970                  |
| 2      | Bhawani Katlai Br-III | 30            | 2012                  |
| 3      | Bhawani Katlai Br-II  | 30            | 2013                  |
| 4      | Bhawani Katlai        | 30            | 2006                  |
| 5      | Kodayar I&II          | 100           | 1970-71               |
| 6      | Kundah I-V            | 555           | 1960-88               |
| 7      | LowerMettur. I-IV     | 120           | 1988-89               |
| 8      | Mettur Dam Tunnel     | 250           | 1937-66               |
| 9      | Moyar                 | 36            | 1952-53               |
| 10     | Papanasam             | 32            | 1944-51               |
| 11     | Parson'sValley        | 30            | 2000                  |
| 12     | Periyar               | 161           | 1958-65               |
| 13     | Pykara                | 59.2          | 1932-05               |
| 14     | Pykara Ultimate       | 150           | 2005                  |
| 15     | Sarkarpathy           | 30            | 1966                  |
| 16     | Sholayar I & II       | 95            | 1971                  |
| 17     | Suruliyar             | 35            | 1978                  |
|        | <b>Total</b>          | <b>1803.2</b> |                       |

## 3. Hydrel Generation Performance for three years:

| Year    | Target (MU) | Actual Generation<br>(MU) | % of Actual Generation<br>Vs Target |
|---------|-------------|---------------------------|-------------------------------------|
| 2014-15 | 5061        | 5058.96                   | 99.96                               |
| 2015-16 | 4962        | 4474.27                   | 90.17                               |
| 2016-17 | 4901        | 2397.12                   | 48.91                               |

#### 4. Pumped Storage H.E. Projects in Operation :

| Sl. No. | Name of Project | I. C.<br>(MW) | Remarks               |
|---------|-----------------|---------------|-----------------------|
| 1.      | Kadamparai PSS  | 400           | Pumping Mode- Working |
|         | <b>Total</b>    | <b>400</b>    |                       |

#### 5. Hydro Projects under construction:

Presently, no HE Project in Tamil Nadu is under construction.

#### 6. H.E. schemes held up due to Inter-State aspects :

| Sl. No. | Name of Scheme/<br>I.C.                                                                                     | Total<br>I.C.<br>( MW) | Location<br>(State) | States<br>Involved          | Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------|-------------------------------------------------------------------------------------------------------------|------------------------|---------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1*      | <b>Nellithorai</b><br><br><b>(1x50 = 50 MW)</b>                                                             | 50                     | T.N.                | TN/ Kerala.                 | <ul style="list-style-type: none"> <li>Sanctioned by Planning Commission in 1974 at an estimated cost of Rs.10.04 crores.</li> <li>Concurrence not issued by CEA due to objections received from Govt. of Kerala.</li> </ul>                                                                                                                                                                                                                                                                    |
| 2*      | <b>Cauvery Power Projects</b><br><br><b>(Hogenekkal &amp; Rasimanal)</b><br><br><b>(120 + 360 = 480 MW)</b> | 480                    | T.N.                | Kerala/<br>TN/<br>Karnataka | <ul style="list-style-type: none"> <li>Returned in 2/1997.</li> <li>In the Core Group Meeting taken by Secretary (Power) on 27.10.2004, it was agreed by GOK and GOTN that Shivasamudram (in Karnataka) and Hogenekkal (in TN) should be taken up simultaneously in the first phase and remaining two projects viz. Mekadatu (in Karnataka) and Rasimanal (in TN) in the next phase.</li> <li>In the Core Group Meeting taken by Secretary (Power) on 21.06.2006, it was agreed that</li> </ul> |

|  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--|--|--|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  |  |  | <p>execution of these four projects through NHPC would be most viable proposition. It was decided that representatives of both the Govts. would take up the matter with their respective Govts. and seek their approval and thereafter necessary agreement will be signed between NHPC and the two State Govts. Consent by both the State Govts. was to be communicated to MOP by 31.07.2006. Tripartite agreement between Govt. of Tamil Nadu, Govt. of Karnataka and NHPC was to be signed. <b>However, in June, 2007 the State of Karnataka informed that Shivasamudram and Mekadatu will be executed by Karnataka in State Sector.</b></p> <ul style="list-style-type: none"> <li>• TNEB informed in April, 2009 that Tamil Nadu has given its concurrence to MOP's draft tripartite agreement and sent it to MOP, GOI on 15.12.2008. Tamil Nadu insists the execution of the projects by neutral agency under Govt. of India. Final award of CWDT is yet to be notified in the Gazette of Govt. of India, as the case has been filed in the Supreme Court of India.</li> <li>• Subsequently, a meeting was held on 08.07.2009 under the chairmanship of Secretary (Power) to discuss the pending issue of development of Hydroelectric Projects in Cauvery Basin. Secretary (Power) expressed that Shivasamudaram being a Run of River Project with in the territory of Karnataka, Tamil Nadu should not have any objection to the</li> </ul> |
|--|--|--|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|    |                                                                  |     |      |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----|------------------------------------------------------------------|-----|------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                                                  |     |      |                 | <p>development of the Project by the State Government. He further opined that there should not be any problem in taking up Shivasamudram Project by the State of Karnataka provided there is joint mechanism for monitoring the water level/releases of water to Tamil Nadu. He suggested that the CWC could act as an observer in this regard and directed that the GOK would provide/share all the technical details of the Project to/with Tamil Nadu. Both the States Governments were advised to consult CEA and CWC before finalization of designing of the Project.</p> <ul style="list-style-type: none"> <li>As regards other projects located in Tamil Nadu but whose submergence area partly falls in Karnataka, it was suggested that the two Governments need to arrive at an arrangement for power sharing.</li> </ul> |
| 3. | <b>Pandiar</b><br><br><b>Punnapuzha</b><br><b>(2x50 =100 MW)</b> | 100 | T.N. | T.N./<br>Kerala | <ul style="list-style-type: none"> <li>DPR with estimated cost of Rs 73.90 crores (11/1976 PL) returned in 07/1982.</li> <li>Project is located in TN on West flowing Pandiar Punnapuzha river (Chaliyar river).</li> <li>Concurrence of Govt. of Kerala is required, as per agreement in 1965, for revised project proposal, which is yet to be communicated by Govt. of Kerala.</li> <li>Based on Ministerial level meeting between Kerala and Tamil Nadu on 10.06.2002, modified proposal was evolved by TNEB and has been sent to Govt. of Kerala on 10.04.2007 for its consideration.</li> <li>Concurrence of Govt. of Kerala is yet to be received.</li> </ul>                                                                                                                                                                 |

|    |                                                            |     |            |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----|------------------------------------------------------------|-----|------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4  | <b>Cholatipuzha<br/>(1x60 =60 MW)</b>                      | 60  | T.N.       | T.N./<br>Kerala                   | <ul style="list-style-type: none"> <li>• DPR with estimated cost of Rs7.39 crores (1976 PL) returned in 07/1982</li> <li>• As per agreement between Tamil Nadu &amp; Kerala reached in Oct., 1965, cost and benefits from the project located on their border are to be shared equally by the two States.</li> <li>• Kerala has not communicated its concurrence to the project investigated by TNEB.</li> <li>• This scheme will be finalized while finalizing the scheme of Pandiar- Punnapuzha with Kerela.</li> </ul>                                                                                                                                                                                                                                                                                                       |
| 5* | <b>Kundah Pumped Storage H.E. Project (4x125 = 500 MW)</b> | 500 | Tamil Nadu | Kerala/TN/Karnataka/<br>Puduchery | <ul style="list-style-type: none"> <li>• DPR was returned on 26.12.2007 because of non resolution of inter-state issues.</li> <li>• In a meeting taken by Chairman (CWC) on 11.6.2008, GOTN was requested to discuss the issue mutually with other basin States &amp; obtain their consent or no objection for construction of the project. Representatives of Govt. of Karnataka could not attend the meeting.</li> <li>• In the 24<sup>th</sup> meeting of Cauvery Monitoring Committee that Cauvery basin States may mutually exchange their proposal of hydel/modernization projects in Cauvery basin for concurrence/comments.</li> <li>• MOWR vide letter dated 23.02.2011 has also requested Govts. of Karnataka and Kerala to send comments on Kundah PS HE Project for taking further action in the matter.</li> </ul> |

(\*) Projects located in Cauvery basin.

## Hydro Power Development in Telangana

### Identified Hydro Power Potential and its status of Development :

|                                                                                                                                   |                                                   |                                                | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------------------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> |                                                   |                                                | 8    | 2019          |
| <b>I</b>                                                                                                                          | <b>Capacity in operation</b>                      |                                                | 6    | 701           |
| <b>II</b>                                                                                                                         | <b>Capacity under construction</b>                |                                                | 1    | 90            |
| <b>III</b>                                                                                                                        | <b>Schemes allotted by States for development</b> |                                                |      |               |
|                                                                                                                                   | (i)                                               | <b>Schemes returned to project authorities</b> | 1    | 320           |

### 1. Identified Projects during Reassessment study

| Sl.No.       | Name of Project       | River       | I. C. (MW) |
|--------------|-----------------------|-------------|------------|
| 1            | Pochampad             | Godavari    | 47         |
| 2            | Inchampalli           | Godavari    | 920        |
| 3            | singareddi            | Godavari    | 250        |
| 4            | Dummagudem            | Godavari    | 360        |
| 5            | Pulichintala          | Krishna     | 180        |
| 6            | Nagarjunasagar LBC    | Krishna     | 42         |
| 7            | Nagarjunasagar Dam PH | Krishna     | 115        |
| 8            | Priyadarshini         | Krishna     | 105        |
| <b>TOTAL</b> |                       | <b>2019</b> |            |

## 2. H.E. Projects in Operation:

| Sl. No. | Name of Project    | Agency  | I.C.<br>(MW) | Year of Commissioning |
|---------|--------------------|---------|--------------|-----------------------|
| 1.      | N.J. Sagar         | TSGENCO | 110          | 1978                  |
| 2.      | N.J. Sagar LBC     | TSGENCO | 60           | 1983                  |
| 3.      | Pochampad          | TSGENCO | 27           | 1987, 88              |
| 4.      | Pridarshani jurala | TSGENCO | 234          | 2008-11               |
| 5.      | Lower Jurala       | TSGENCO | 240          | 2015-16               |
| 6       | Pulinchinthala     | TSGENCO | 30           | 2016                  |
|         | <b>Total</b>       |         | <b>701</b>   |                       |

## 3. Pumped Storage H.E. Projects in Operation:

| Sl. No. | Name of Project | I. C.<br>(MW)  | Remarks                                            |
|---------|-----------------|----------------|----------------------------------------------------|
| 1.      | Srisaillam LBPH | 900            | Pumping Mode- Working.                             |
| 2.      | Nagarjuna Sagar | 705.60         | Tail pool dam constructed but not yet operational. |
|         | <b>Total</b>    | <b>1605.60</b> |                                                    |

## 4. Hydel Generation Performance for three years:

| Year    | Target (MU) | Actual Generation<br>(MU) | % of Actual Generation<br>Vs Target |
|---------|-------------|---------------------------|-------------------------------------|
| 2014-15 | 3632        | 3113.81                   | 85.73                               |
| 2015-16 | 3606        | 282.33                    | 7.83                                |
| 2016-17 | 3132        | 1279.99                   | 40.87                               |

**5. H.E. Projects under Construction:**

| Sl. No. | Name of Project | I.C.<br>(MW) | Agency  | Likely Commissioning |
|---------|-----------------|--------------|---------|----------------------|
| 1.      | Pulichintala    | 90           | TSGENCO | 2017-19              |
|         | <b>Total</b>    | <b>90</b>    |         |                      |

**6. H.E. Schemes Returned to project Authorities:**

| Sl. No. | Name of Project | I.C.<br>(MW) | Agency  | Month of Return | Reason for Return                                                                                                                            |
|---------|-----------------|--------------|---------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | Dummugudem      | 320          | APGENCO | Mar-06          | Returned due to non-replying of various comments such as hydro planning, cost of E&M works, hydel civil Engineering, geological aspects etc. |
|         | <b>Total</b>    | <b>320</b>   |         |                 |                                                                                                                                              |

## Hydro Power Development in Tripura

### Identified Hydro Power Potential and its status of Development :

|                                                                                                                            | Nos. | Capacity<br>(MW) |
|----------------------------------------------------------------------------------------------------------------------------|------|------------------|
| Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW) | 0    | 0                |

## Hydro Power Development in Uttar Pradesh

### Identified Hydro Power Potential and its status of Development:

|                                                                                                                            | Nos. | Capacity (MW) |
|----------------------------------------------------------------------------------------------------------------------------|------|---------------|
| Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW) | 6    | 664           |
| Capacity in operation                                                                                                      | 4    | 501.6         |

### 1. Identified Projects during Reassessment study :

| Sl.No.       | Name of Project      | River      | I. C. (MW) |
|--------------|----------------------|------------|------------|
| 1            | Khara                | Yamuna     | 160        |
| 2            | Matatila             | Betwa      | 31         |
| 3            | Orchha               | Betwa      | 39         |
| 4            | Rihand               | Rihand     | 300        |
| 5            | Obra                 | Rihand     | 99         |
| 6            | Eastern Yamuna Canal | Yamuna     | 35         |
| <b>TOTAL</b> |                      | <b>664</b> |            |

### 2. H.E. Projects in Operation:

| Sl.No. | Name of Project | Agency | I. C. (MW) | Year of Commissioning |
|--------|-----------------|--------|------------|-----------------------|
| 1      | Rihand          | UPJVNL | 300        | 1961-65               |
| 2      | Obra            | UPJVNL | 99         | 1970-71               |
| 3      | Matatilla       | UPJVNL | 30.6       | 1965                  |

|              |       |        |              |      |
|--------------|-------|--------|--------------|------|
| 4            | Khara | UPJVNL | 72           | 1992 |
| <b>Total</b> |       |        | <b>501.6</b> |      |

### 3. H.E. schemes held up due to Inter-State aspects:

| Sl. No.  | Name of Scheme/<br>I.C.       | Total<br>I.C.<br>( MW) | Location<br>(State) | States<br>Involved     | Status                                                                                                                                                                          |
|----------|-------------------------------|------------------------|---------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b> | Panchnad MPP<br>(6x15 = 90MW) | 90                     | U.P.                | U.P./M.P/<br>Rajasthan | <ul style="list-style-type: none"> <li>• DPR with Project estimated cost of Rs 559 Crores (6/1983 PL) returned.</li> <li>• Involves submergence in MP and Rajasthan.</li> </ul> |

## Status of Hydro Power Development in Uttarakhand

### Identified Hydro Power Potential and its status of Development:

|                                                                                                                                   |                                                                                       | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> |                                                                                       | 84   | 17998         |
| <b>I</b>                                                                                                                          | <b>Capacity in operation</b>                                                          | 16   | 3756.4        |
| <b>II</b>                                                                                                                         | <b>Capacity under construction</b>                                                    | 6    | 1430          |
| <b>III</b>                                                                                                                        | <b>Schemes allotted by States for development</b>                                     |      |               |
|                                                                                                                                   | (i) a Schemes cleared by CEA and yet to be taken up for construction                  | 6    | 1858          |
|                                                                                                                                   | (ii)a Schemes under Examination in CEA                                                | 2    | 408           |
|                                                                                                                                   | (iii) Schemes returned to project authorities                                         | 5    | 762           |
|                                                                                                                                   | (iv) Schemes under S&I                                                                | 3    | 663           |
|                                                                                                                                   | (v) H.E. Schemes allotted for development on which S&I is held up/ yet to be taken up | 15   | 2537          |
|                                                                                                                                   | <b>Total (i-v)</b>                                                                    | 31   | 6228          |
| <b>IV</b>                                                                                                                         | <b>Capacity yet to taken up for development</b>                                       | 31   | 6583.7        |

Excluding schemes cleared/under examination by State Govt.

### 1 H.E. Projects in Operation:

| Sl. No. | Name of Project | Agency | River       | I.C. (MW) | Year of Commissioning |
|---------|-----------------|--------|-------------|-----------|-----------------------|
| 1.      | Tanakpur        | NHPC   | Sharda      | 94.2      | 1992                  |
| 2.      | Dhauliganga     | NHPC   | Dhauliganga | 280       | 2005                  |
| 3.      | Tehri ST.I      | THDC   | Bhagirathi  | 1000      | 2006-07               |
| 4.      | Koteshwar       | THDC   | Bhagirathi  | 400       | 2010-12               |
| 5.      | Dhakrani        | UJVNL  | Yamuna      | 33.75     | 1965-70               |
| 6.      | Dhalipur        | UJVNL  | Yamuna      | 51        | 1965-70               |
| 7.      | Kulhal          | UJVNL  | Yamuna      | 30        | 1975                  |
| 8.      | Chibro(Yamuna)  | UJVNL  | Tons        | 240       | 1975,76               |
| 9.      | Khodri          | UJVNL  | Tons        | 120       | 1984                  |
| 10.     | Ramganga        | UJVNL  | Ramganga    | 198       | 1975-77               |

|     |                  |       |            |               |          |
|-----|------------------|-------|------------|---------------|----------|
| 11. | Chilla           | UJVNL | Ganga      | 144           | 1980-81  |
| 12. | Maneribhali St.I | UJVNL | Bhagirathi | 90            | 1984     |
| 13. | Khatima          | UJVNL | Sharda     | 41.4          | 1955, 56 |
| 14. | Maneri Bhali-II  | UJVNL | Bhagirathi | 304           | 2008     |
| 15. | Vishnu Prayag    | JPPVL | Alaknanda  | 400           | 2006     |
| 16. | Srinagar         | AHPC  | Alaknanda  | 330           | 2015-16  |
|     | <b>Total</b>     |       |            | <b>3756.4</b> |          |

## 2. H.E. Schemes under Construction:

| Sl. No. | Name of Project     | River       | I.C.<br>(MW) | Agency                                    | Likely<br>Commissioning |
|---------|---------------------|-------------|--------------|-------------------------------------------|-------------------------|
| 1.      | Tapovan Vishnugad   | Dhauliganga | 520          | NTPC                                      | 2019-20                 |
| 2.      | Vishnugad Pipalkoti | Alaknanda   | 444          | THDC                                      | 2019-20                 |
| 3.      | Lata Tapovan@       | Dhauliganga | 171          | NTPC                                      | 2021-22                 |
| 4.      | Phata Byung#        | Mandakini   | 76           | Lanco                                     | 2019-20                 |
| 5.      | Singoli Bhatwari#   | Mandakini   | 99           | L&T<br>Uttaranchal<br>Hydro<br>Power Ltd. | 2019-20                 |
| 6.      | Vyasi               | Yamuna      | 120          | UJVNL                                     | 2018-19                 |
|         | <b>Total</b>        |             | <b>1430</b>  |                                           |                         |

@ Subject to restart of work - # Subject to active start of works

## 3. H.E. Projects Concurred by CEA:

| Sl. No. | Name of Scheme   | River      | Agency | Sector  | I.C.<br>(MW) | Status                                                                                                                                  |
|---------|------------------|------------|--------|---------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | Kotlibhel St-IA# | Bhagirathi | NHPC   | Central | 195          | <b>CEA Concurrence:</b> 03.10.06<br><b>EC</b> - obtained on 9.5.2007<br><b>FC</b> - I obtained on 13.10.2011 & FC- II awaited.          |
| 2.      | Kotlibhel St-IB# | Alaknanda  | NHPC   | Central | 320          | <b>CEA Concurrence:</b> 31.10.06<br><b>E.C.</b> - Given earlier on 14.08.07 is withdrawn on 22.11.10.<br><b>F.C.</b> - Declined by MOEF |
| 3.      | Kotlibhel St-II# | Ganga      | NHPC   | Central | 530          | <b>CEA Concurrence:</b> 30.11.06<br><b>E.C.</b> - accorded on                                                                           |

|    |                             |               |       |         |             |                                                                                                                                                                                                                              |
|----|-----------------------------|---------------|-------|---------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                             |               |       |         |             | 23.08.2007.<br><b>F.C.</b> - Declined by MOEF                                                                                                                                                                                |
| 4. | Devsari                     | Pindar        | SJVNL | Central | 252         | <b>CEA Concurrence:</b><br>07.08.12<br><b>E.C.</b> - EAC meeting held on 27.12.2011 recommended for EC. Formal letter to be issued after FC.<br><b>F.C.</b> - linked with vacation of stay imposed by Hon'ble Supreme Court. |
| 5. | Rupsiyabagar<br>Khasiyabara | Gori<br>Ganga | NTPC  | Central | 261         | <b>CEA Concurrence:</b><br>16.10.2008<br><b>E.C.</b> - accorded on 26.03.09 <b>F.C.</b> awaited                                                                                                                              |
| 6. | Alaknanda#                  | Alaknanda     | GMR   | Private | 300         | <b>CEA Concurrence:</b> 08.08.08<br>(Validity extended up to 7.8.15)<br><b>E.C.</b> - Obtained on 12.3.08<br><b>F.C.</b> - St-I obtained on 8.11.11. St-II obtained on 09.11.2012.                                           |
|    | <b>Total</b>                |               |       |         | <b>1858</b> |                                                                                                                                                                                                                              |

# Matter is under sub judice in Hon'ble Supreme Court.

#### 4. Hydro Schemes Under Examination/Scrutiny in CEA :

| Sl. No. | Name of Scheme        | River       | Sector  | I.C.<br>(MW) | Agency |
|---------|-----------------------|-------------|---------|--------------|--------|
| 1.      | Jhelam Tamak#         | Dhauliganga | Central | 108          | THDCIL |
| 2.      | Bowala Nand<br>Paryag | Alaknanda   | State   | 300          | UJVNL  |
|         | <b>Total</b>          |             |         | <b>408</b>   |        |

# Matter is under sub judice in Hon'ble Supreme Court.

#### 5. Hydro Schemes Returned to Project Authorities for re-submission after compliance of observations:

| Sl. No. | Name of Scheme         | River      | Agency | Sector | I.C.<br>(MW) | Month of Return |
|---------|------------------------|------------|--------|--------|--------------|-----------------|
| 1.      | Bhaironghati*          | Bhagirathi | UJVNL  | State  | 381          | 02/08           |
| 2.      | Nand Prayag<br>Langasu | Alaknanda  | UJVNL  | State  | 100          | 04/11           |

|    |                         |            |  |         |            |       |
|----|-------------------------|------------|--|---------|------------|-------|
| 3. | Mori Hanol              | Tons       |  | Private | 63         | 01/10 |
| 4. | Bogudiyar Sirkari Bhyol | Gori Ganga |  | Private | 146        | 09/10 |
| 5. | Tiuni Plasu             | Tons       |  | State   | 72         | 10/10 |
|    | <b>Total</b>            |            |  |         | <b>762</b> |       |

\* As per MoP letter dated 24.12.2010 in the meeting of NGRBA held on 1.11.2010 under the chairmanship of Hon'ble Prime Minister, it was decided to discontinue Loharinag Pala, Pala Maneri and Bhaironghati H.E. Projects on Bhagirathi.

## 6. Hydro Schemes under Survey & Investigation:

| Sl. No. | Name of Scheme            | Basin/River | I.C. (MW)  | Agency | Target date of preparation of DPR |
|---------|---------------------------|-------------|------------|--------|-----------------------------------|
| 1.      | Sirkari Bhyol Rupsiabagar | Gori Ganga  | 168        | UJVNL  | 12/17                             |
| 2.      | Goriganga III-A           | Gori Ganga  | 165        | NHPC   | 09/17                             |
| 3.      | Bokang Bailing            | Dhauliganga | 330        | THDC   | 04/19                             |
|         | <b>Total</b>              |             | <b>663</b> |        |                                   |

## 7. H.E. schemes allotted for development on which Survey & Investigation is held up/ yet to be taken up:

| Sl. No. | Scheme          | River       | I. C. (MW) | Agency | Date of Allotment/ MoA | Status                                                                                                                              |
|---------|-----------------|-------------|------------|--------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Arakot Tiuni    | Uttarakhand | 72         | UID    | -                      | MOEF clearance awaited. S&I yet to be taken up.                                                                                     |
| 2       | Chhunger - Chal | Uttarakhand | 240        | NHPC   | 21.11.2005             | S&I held up due to non-clearance of MOEF                                                                                            |
| 3       | Garba Tawaghat  | Uttarakhand | 630        | NHPC   | 21.11.2005             | S&I held up. MoP approached MEA for taking up the matter of dev. of Garba Tawaghat H.E. Project under the aegis of Mahakali treaty. |

|    |                      |              |     |                     |            |                                                                                                                                                         |
|----|----------------------|--------------|-----|---------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4  | Urthing Sobla        | Uttarakhand  | 280 | Reliance Power Ltd. | -          | MoEF Clearance awaited . S7I heldup as the project area falls under ASkot Musk deer Sanctuary                                                           |
| 5  | Sela Urthing         | Uttarakhand  | 230 | UJVNL               | 09.12.2004 | Road connectivity is not proper upto the project site. S&I shall be taken up after carrying out detail survey at project site & confirmation of levels. |
| 6  | Jadh Ganga           | Jadh Ganga   | 50  | THDC                | 21.11.2005 | <ul style="list-style-type: none"> <li>• S&amp;I yet to be taken up.</li> <li>• Located in Eco sensitive Zone of Gangotri National Park.</li> </ul>     |
| 7  | Karmoli              | Jadh Ganga   | 140 | THDC                | 21.11.2005 | <ul style="list-style-type: none"> <li>• S&amp;I yet to be taken up.</li> <li>• Located in Eco sensitive Zone of Gangotri National Park.</li> </ul>     |
| 8  | Rishi Ganga - I      | Rishi Ganga  | 70  | UJVNL               | 09.12.2004 | <ul style="list-style-type: none"> <li>• S&amp;I yet to be taken up.</li> <li>• Located in Nanda Devi National Park. MoEF Clearance awaited.</li> </ul> |
| 9  | Rishi Ganga - II     | Rishi Ganga  | 35  | UJVNL               | 09.12.2004 | <ul style="list-style-type: none"> <li>• S&amp;I yet to be taken up.</li> <li>• Located in Nanda Devi National Park. MoEF Clearance awaited.</li> </ul> |
| 10 | Taluka Sankri        | Uttarakhand  | 140 | UJVNL               | 09.12.2004 | S&I yet to be taken up. Project falls under Govind Pashu Vihar WLS.                                                                                     |
| 11 | Gohana Tal           | Birahi Ganga | 60  | THDC                | 21.11.2005 | Project included in the list of 24 HE project named in PIL under consideration by Hon'ble Supreme court                                                 |
| 12 | Khartoli Lumti Talli | Uttarakhand  | 55  | NHPC                | 07.04.2005 | S & I was held up. PCCF (Wildlife) and chief Warden Wildlife, Dehradun has since granted permission for S&I on 13. 12. 2016.                            |

|    |                    |             |             |         |            |                                                                                                                                                                                                                              |
|----|--------------------|-------------|-------------|---------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                    |             |             |         |            | Preparation of PFR is in progress for obtaining approval of ToR from MoEF & CC for carrying out S&I works.                                                                                                                   |
| 13 | Maleri Jhelam      | Dhauliganga | 55          | THDC    | 21.11.2005 | Project included in the list of 24 HE project named in PIL under consideration by Hon'ble Supreme court                                                                                                                      |
| 14 | Mapang - Bogidiyar | Uttarakhand | 200         | GVK-L&T | 07.05.2005 | S&I held up due to Supreme Court order directing MoEF and State of Uttarakhand not to grant any Environmental Clearance or Forest Clearance for any hydro electric project in the State of Uttarakhand until further orders. |
| 15 | Tamak Lata         | Dhauliganga | 280         | UJVNL   | 09.12.2004 | Project included in the list of 24 HE project named in PIL under consideration by Hon'ble Supreme court                                                                                                                      |
|    | <b>Total</b>       |             | <b>2537</b> |         |            |                                                                                                                                                                                                                              |

### 8. Achievements during the last two years:

- i) Srinagar H.E. Project (4x82.50=330 MW) of Alaknanda Hydro Power Company Ltd. in Uttarakhand was commissioned during the year 2015-16.

### 9. Pumped storage H.E. Projects under Construction:

| Sl. No. | Name of Project | I. C. (MW)  | Remarks                         |
|---------|-----------------|-------------|---------------------------------|
| 1.      | Tehri St.II     | 4x250=1000  | Likely commissioning by 2019-20 |
|         | <b>Total</b>    | <b>1000</b> |                                 |



## Hydro Power Development in West Bengal

### Identified Hydro Power Potential and its status of Development:

|                                                                                                                                   |                                                   | Nos. | Capacity (MW) |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------|---------------|
| <b>Identified Hydro Power Potential as per reassessment Study from Major/Medium Schemes (Schemes having capacity above 25 MW)</b> |                                                   | 6    | 2829          |
| <b>I</b>                                                                                                                          | <b>Capacity in operation</b>                      | 5    | 441.2         |
| <b>II</b>                                                                                                                         | <b>Capacity under construction</b>                | 1    | 120           |
| <b>III</b>                                                                                                                        | <b>Schemes allotted by States for development</b> |      |               |
|                                                                                                                                   | (i) Schemes under S&I                             | 1    | 81            |

### 1. Identified Projects during Reassessment study :

| Sl.No.       | Name of Project | River       | I. C. (MW) |
|--------------|-----------------|-------------|------------|
| 1            | Balason         | Balason     | 33         |
| 2            | Teesta High Dam | Teesta      | 2505       |
| 3            | Ramam-I         | Rmmam       | 70         |
| 4            | Ramam-II        | Rmmam       | 85         |
| 5            | Ramam-III       | Rmmam       | 100        |
| 6            | Jaldhaka-I      | Jaldhaka    | 36         |
| <b>TOTAL</b> |                 | <b>2829</b> |            |

### 2. H.E. Projects in Operation:

| Sl.No. | Name of Project | Agency  | I. C. (MW) | Year of Commissioning |
|--------|-----------------|---------|------------|-----------------------|
| 1      | Jaldhaka        | WBSEDCL | 36         | 1967- 72,2012         |
| 2      | Rammam II       | WBSEDCL | 50         | 1995-96               |

|   |                    |      |              |         |
|---|--------------------|------|--------------|---------|
| 3 | Teesta low dam-III | NHPC | 132          | 2013-14 |
| 4 | Maithon            | DVC  | 63.2         | 1957-58 |
| 5 | Teesta Low Dam-IV  | NHPC | 160          | 2016    |
|   | <b>Total</b>       |      | <b>441.2</b> |         |

### 3. Pumped Storage H.E. Projects in Operation:

| Sl. No. | Name of Project | I. C.<br>(MW) | Remarks               |
|---------|-----------------|---------------|-----------------------|
| 1.      | Purulia         | 900           | Pumping Mode- Working |
|         | <b>Total</b>    | <b>900</b>    |                       |

### 4. H.E. Schemes under Construction:

| Sl. No. | Name of Project | Agency | I. C.<br>(MW) | Likely Commissioning |
|---------|-----------------|--------|---------------|----------------------|
| 1.      | Rammam-III      | NTPC   | 120           | 2020-21              |
|         | <b>Total</b>    |        | <b>120</b>    |                      |

### 5. Pumped Storage H.E. Schemes concurred by CEA:

| Sl. No. | Name of Project | I. C.<br>(MW) | Remarks                                  |
|---------|-----------------|---------------|------------------------------------------|
| 1.      | Turga           | 1000          | Concurred on 5.10.2016. EC & FC awaited. |
|         | <b>Total</b>    | <b>1000</b>   |                                          |

### 6. Hydro Schemes under Survey & Investigation:

| Sl.No. | Name of Scheme | Basin/River               | Agency for DPR | Original I.C.<br>(MW) | Date of MOA | Target date of Preparation of DPR |
|--------|----------------|---------------------------|----------------|-----------------------|-------------|-----------------------------------|
| 1      | TLDP-I&II      | Teesta/Badi(Great Rangit) | NHPC           | 81                    | 30.07.15    | -                                 |
|        | <b>Total</b>   |                           |                | <b>81</b>             |             |                                   |